FIRST IN THE FIELD!

Offshore

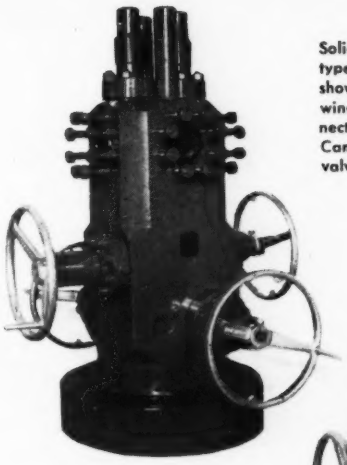
The Marine Oil OPERATIONS Journal

Special Two-R Drill Barge Section
See Page 13

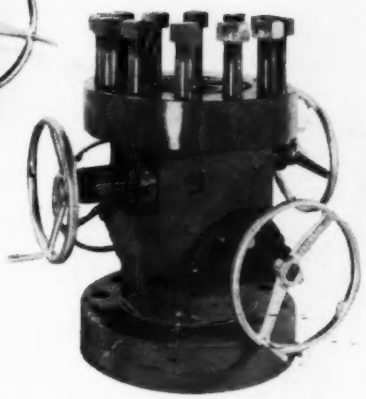
4 PARALLEL PRODUCTION STRINGS

The fortunate circumstance of 4 producing sands in one well means more today than ever before. The reason is Cameron's new quadruple completion equipment – the first of its kind. This equipment, which is already in service,* includes all of the time tested features of the highly successful Cameron dual and triple hangers and seals plus a new unitized tree design. Strings may be run or pulled independently. The segmented hangers provide maximum clearance for running special tools. Each hanger segment will support full joint strength loads. With all hanger segments in place, annulus seals may be activated by plastic packing injection to withstand annulus pressures equal to the full working pressure of the tubing head. There are triple seals for safety and positive orientation of hangers. Cameron's reliable back pressure valves afford complete control of well pressure through every phase of setting.

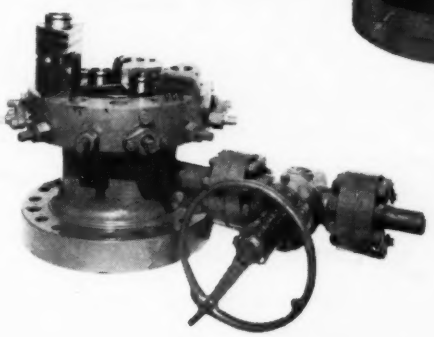
The new quadruple string solid block master valve and the solid block cross type valve are made possible by the Cameron gate valve with its rotating seats and remarkable durability. Choke valves and caps attach directly to the compact solid block body of the cross type valve to complete this newest addition to multiple production and multiple profits. With this design only the size of the casing limits the number of parallel strings that may be hung.



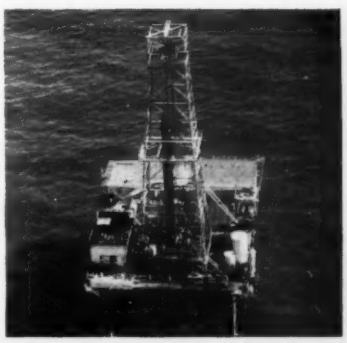
Solid block cross type tree valve showing caps and wing valve connections with new Cameron gate valves.



Solid block quadruple string master valve with new Cameron gate valves.



Quadruple completion spool with triple seal segmented hangers which locate automatically when lowered in place. These hangers use the Cameron back pressure valve for closed pressure completion.



* *Oil industry's first 4 parallel string quadruple zone completion by CATC Offshore Group. Completion date June 19, 1958.*

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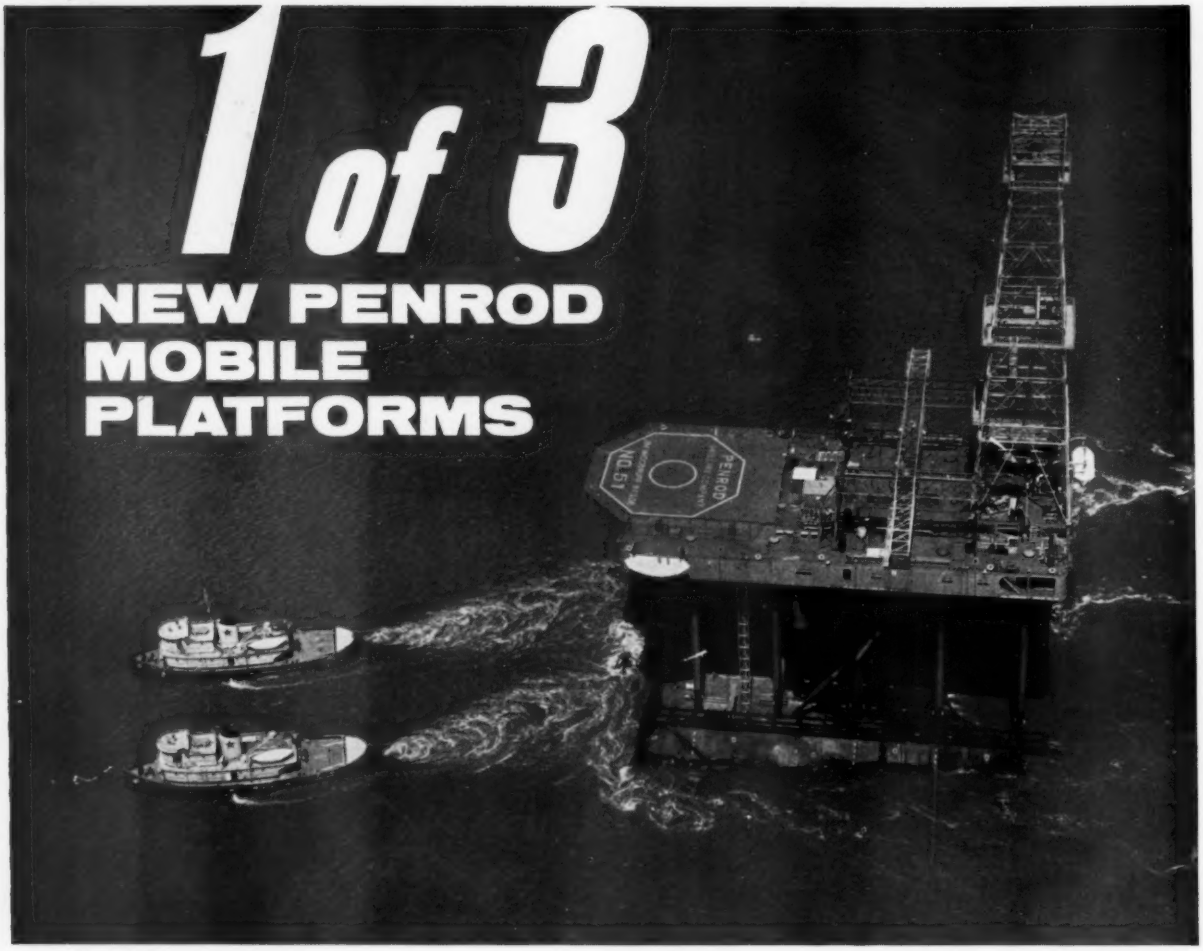

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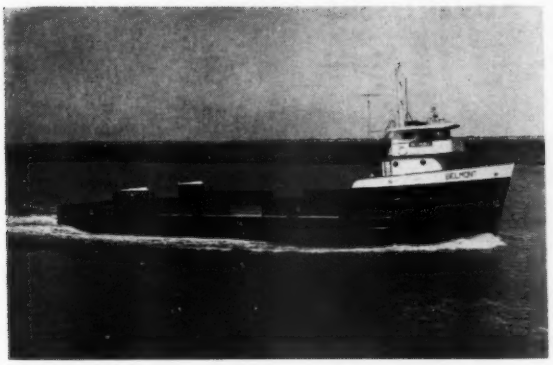
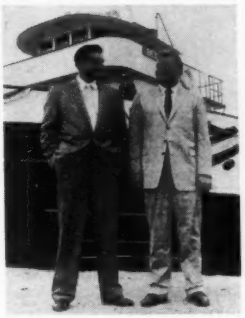


M/V Belmont—136' T.S. Supply Vessel—develops 13 mph at 1200 hp. It is powered by GM 6-110 Tandem Twin diesels.

M/V Swaps—85' crew-cargo boat—powered with GM 6-110 diesel engines.

M/V Gallant Man—95' T.S. all weather crewboat—supplied with GM Tandem Twin 6-110 diesels, cruises at 18 mph.



Owners Delo Caspary (left) and Jerry Wendell of Caspary-Wendell Work Boats, Rockport, Texas, discuss GM Diesel Power from George Engine Co., Inc.

dependable George Engine GM diesels power the entire fleet

The Caspary-Wendell Work Boats, like many other companies, know they can depend on GM diesel power. The owners said: "We are proud of our fleet and of the service we get from the GM diesels which power them. Delivery of these three boats from Burton Shipyards brings our fleet to twelve boats with a total of 54 GM diesels providing power for propulsion and lighting."

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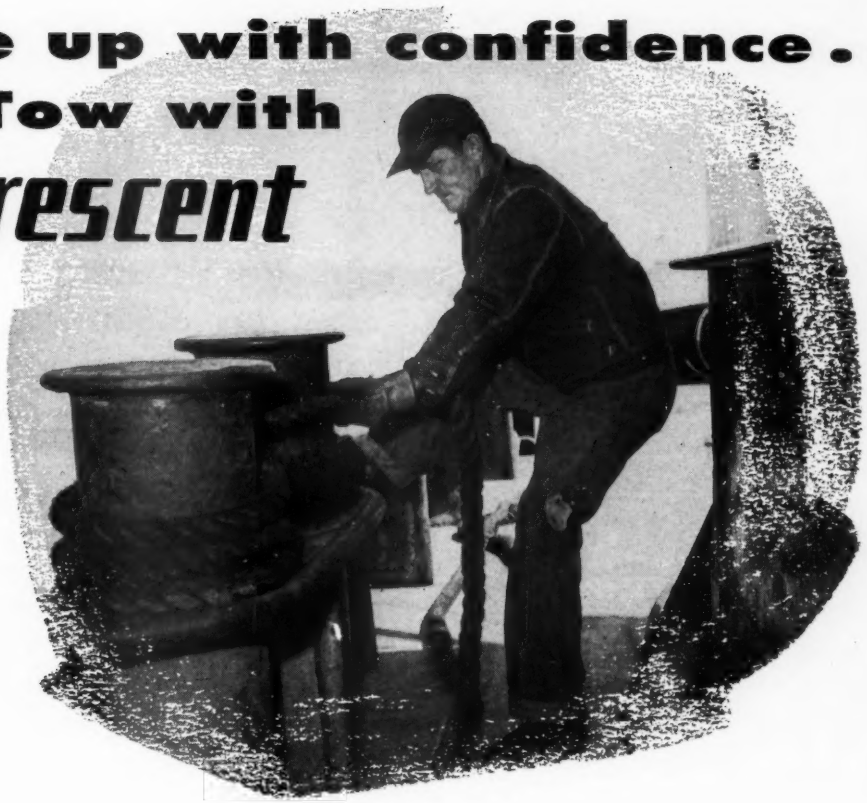

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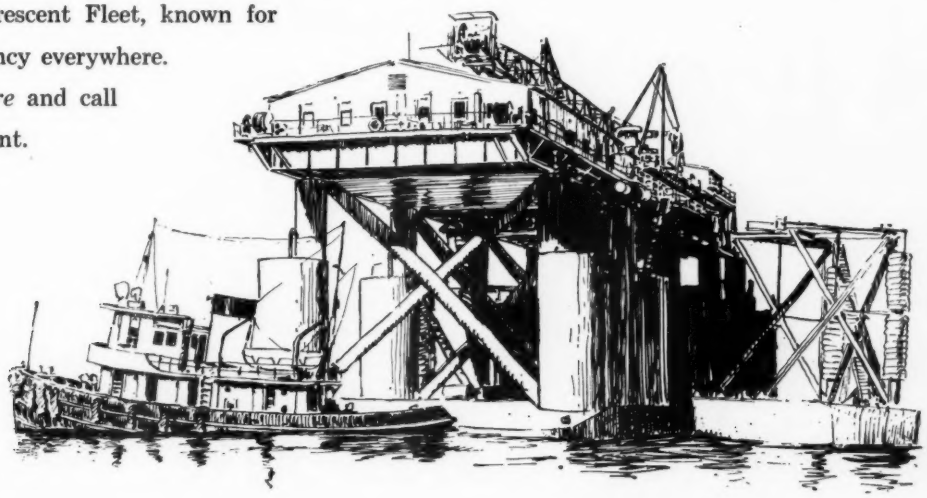

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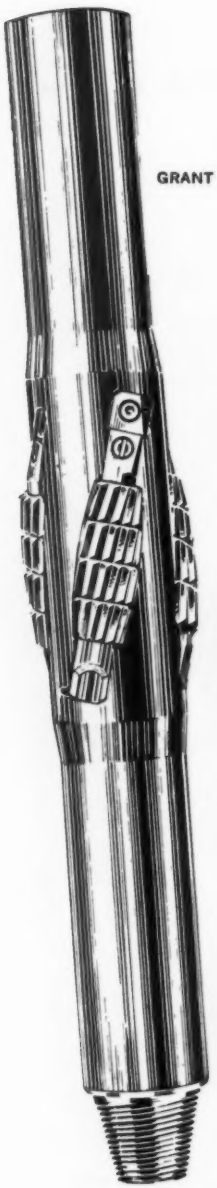

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Way offshore . . .

With the Publisher

OUR industry should be up and on the go like an old range bull that's heard a fighting bull beller back at him. Marine drilling is booming—in places like Lake Maracaibo, the Gulf of Paria, Lake Erie and off the California coast.

But the industry has received a setback off the Louisiana coast, and we feel it's time somebody took the lead and tried to do something about it. So we aim to do some bellering ourselves—about "blue water" allowables off Louisiana.

To coin a phrase, we'd like to see the offshore operators in Louisiana get a break—rather than go for broke. We want to see offshore production in Louisiana's portion of the "whale pasture," where terrific proven reserves are located, geared to cost, to water depth—to a new set of rules that will let the offshore operator operate.

To find out exactly what should be done, **Offshore** has gone to the industry's leaders. We've asked them to come up with an answer. And we'll be reporting on what they say in our October issue.

In the same issue, you'll find a startling report on world—and U.S. —petroleum consumption, projected over the next fifteen years. It's new, it's confidential, it's . . .

Well, shucks! Just wait and read it. It's an eye-opener, and a report you'll be hanging on to for a long time to come.

The issue will be crammed with so many other sure-fire, bang-up features that we know you'll be a-pantin' after it like a pusher from the Persian Gulf after a pretty platinum blonde.

So—we'll see you next month!

Long John Latham

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Offshore reserves are . . .

Vital to Our National Security

THE Middle East area holds 71 percent of the free world's oil reserves —the U. S. has only 14 percent.

While consumption rose in the U. S. during 1957, our known reserves actually declined.

There is no denying that, cut off from Middle East supplies, the U. S. would eventually run short of oil. Nuclear power might replace oil eventually. But wide-spread commercial use of nuclear power is not yet feasible, and we must remain—for the foreseeable future—a nation geared to an immense daily consumption of oil and its by-products.

Without oil, we would quickly become a second-rate nation. Our mammoth transportation system—the world's most complex and efficient, vital in both war and peace—would break down. Our whole economy would sag, and could only be bolstered by unproven substitutes such as nuclear power.

It seems unlikely that such an eventuality will ever come to pass. It is doubtful that the free world will be cut off from oil supplies from the Middle East, even if the entire area falls under Nasser's sway. Arab countries, it has been pointed out, would be courting economic ruin to follow such a course. Russia would not be a replacement market for the West's share of Middle East oil; Russia has surplus production of her own, and is actively searching for markets outside the iron curtain.

The logical conclusion, then, is that countries in Middle East will be forced to continue supplying oil to the West.

But with the nationalist fervor currently sweeping Arab lands, can we count on logic—or even economic necessity—to govern the judgment of revolutionary leaders?

The answer is an emphatic no! Without going into the reasons—the ragtag mobs in the streets of ancient cities such as Baghdad, who know and care little about global economics; the age-old hatreds and resentments, skilfully fed by the communists; the fact that communism festers and breeds on ruin—we must face up to the fact that the whole Middle East is an immense powder keg, ready to explode. And when—and if—it explodes, we may well lose the oil reserves so vital to our future.

What can we do?

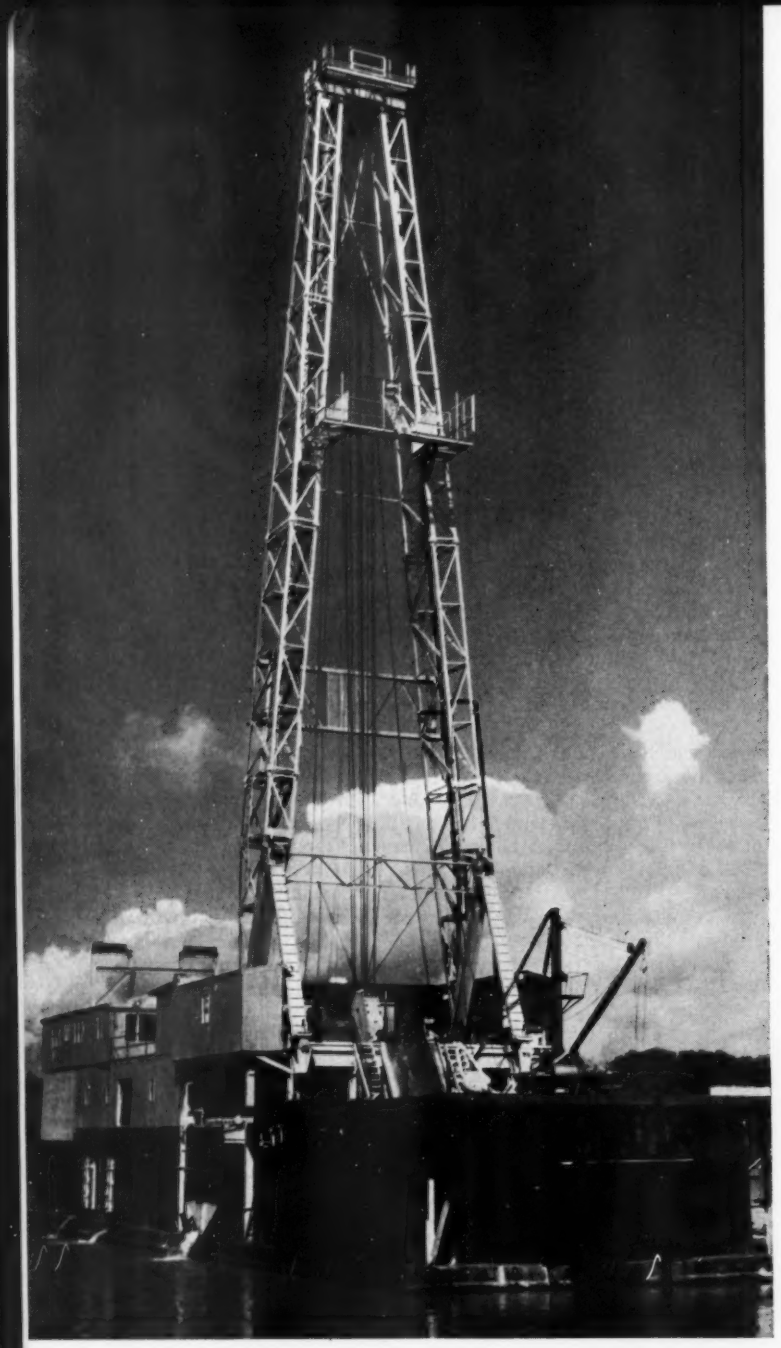
Immediately, we can launch an all-out search for new oil reserves. We have, right at our doorstep, an area that is immensely promising—offshore lands bordering the Gulf Coast states. These submerged lands, truly the last great oil frontier within our boundaries, already hold vast proven reserves, but millions of acres remain virtually untapped.

As a matter of extreme urgency, with our national security at stake, we must make every effort to develop this great marine oil province. As a first step, allowables must be established that will remove the present crushing economic disadvantage from the offshore operator. These allowables, realistically based on the higher cost of drilling and producing oil offshore, should be commensurate with similar costs on land—i.e., allowables should be established that would make it as cheap to produce a barrel of oil from an offshore well as from a well on land.

Given an even break, the big marine rigs will move into ever deeper water, and drill bits will seek out and tap those new oil reserves so vital to our national security.

But—we must act now, while time is still on our side. To delay could give the communists an easy victory, won in the strife-torn Middle East but resounding from the very Kremlin walls!

The Editors



TWO R BARGE puts emphasis on power

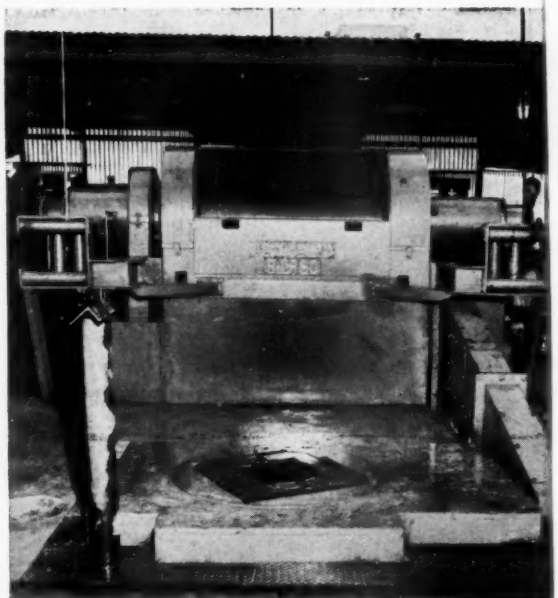
Recommissioned July 10, 1958, this veteran Two R barge can now do a thoroughly competitive job in shallow-water drilling. The barge has been rigged with some of the biggest, most powerful deep-hole equipment ever built.

When its owners decided to modernize the barge, the hull was in excellent condition and required no major modification. But brand-new drilling units were ordered from Bethlehem Supply—units that include the massive B-3661 drawworks, two companion B-1640 mud pumps, and a specially designed core-line and rotary-drive unit.

Bethlehem takes this occasion to wish the Two R Drilling Co. every success in the operation of this rig.

MAJOR ITEMS FURNISHED BY BETHLEHEM

B-3661 drawworks
B-1640 mud pumps
G-150 mud-mixing pump
B-CR60 core-line and rotary-drive unit
B-275 rotary table
300TA swivel
B-144-3EB compound with engines and torque-converters
5000 ft 1⅜-in. 6x26 Type A rotary line
15,000 ft ⅝-in. 6x7 bethanized coring line



Bethlehem B-CR60 core-line and rotary-drive unit, and B-275 rotary. One control panel serves all drilling operations from derrick floor.

BETHLEHEM SUPPLY COMPANY • *GENERAL OFFICES:* 21 E. SECOND ST., TULSA, OKLA.
West Coast Headquarters: Los Angeles, Calif.
Canadian Distributor: Bethlehem Supply Company of Canada, Ltd., Calgary, Alberta, Canada
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BETHLEHEM SUPPLY

BETHLEHEM STEEL

Reagan Tool Company delivers . . .

Two-R Drill Barge

Advanced design and compact equipment arrangement make new shallow water unit efficient and economic

ONE OF the most powerful shallow-water drill barges ever built was delivered to Two-R Drilling Company of New Orleans recently by Reagan Tool Company of Morgan City, Louisiana. This barge demonstrates Two-R Drilling Company's confidence in the future growth of the Gulf Coast oil industry, and insures a top ranking spot for their company in the highly competitive inshore contracting field.

In addition to its unusual power—the rig is capable of drilling a 12-in. hole to 13,000-ft. or a slim hole past 25,000-ft.—the unit is compactly arranged to increase efficiency and economy.

It has power plus speed, flexibility, large mud pumps, large capacity mast and more working space than is normally available on drill barges.

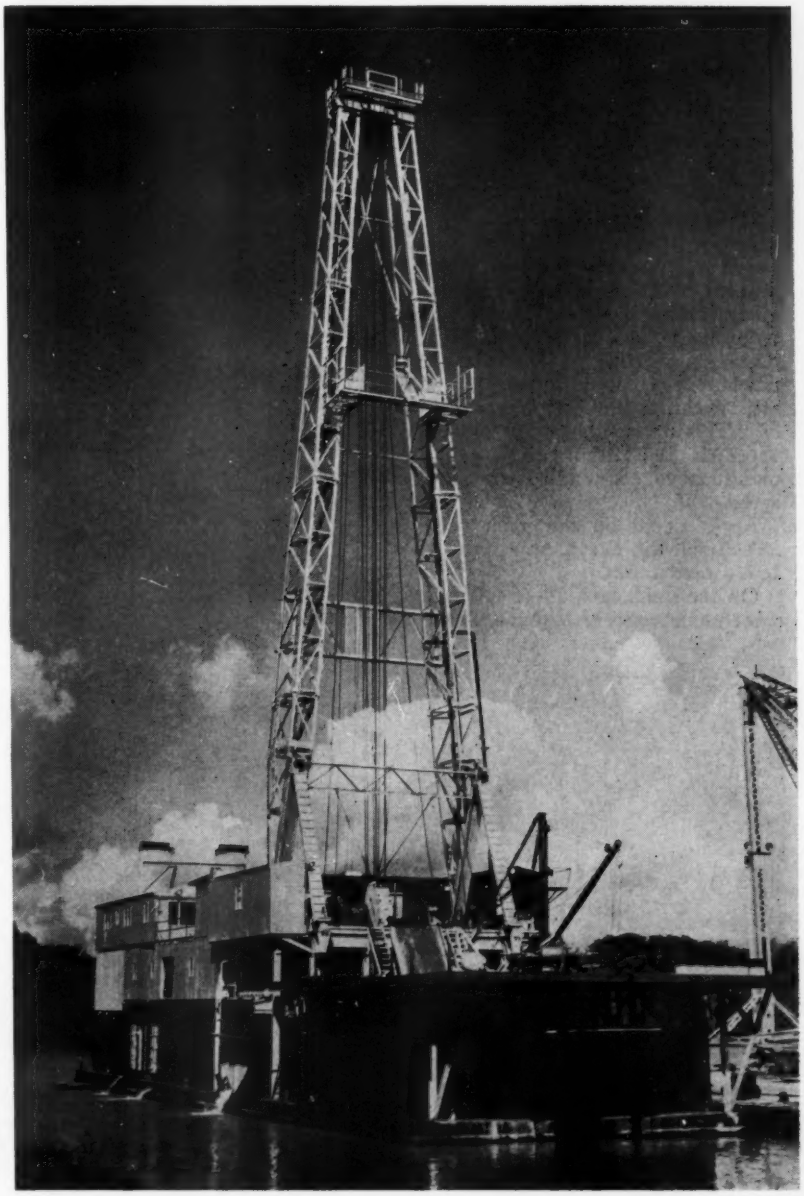
This new three-decked rig was fabricated and installed on a 170-ft. by 45-ft. by 12-ft. steel barge hull by Reagan Tool Company at their Morgan City, Louisiana, docks. The barge hull was built by Bethlehem Steel Company in 1953.

After christening ceromonies and extensive dock trials, drill barge **Two-R** went to work for The California Company, drilling near Gibson, Louisiana.

Main deck . . . In order to increase efficiency and eliminate exceptionally long chain drives between levels, it was necessary to install the Bethlehem drawworks, Waukesha diesel driven compound and the three Bethlehem mud pumps on the main deck.

Once installed, this machinery was enclosed with a 14-ft. watertight sea wall extending to the second deck. Ventilation for this machinery space

(continued on page 14)



Though this looks like barges drawworks, it is actually the Bethlehem BCR-60 catworks. Drawworks is located two levels down in the water tight main engine room. In the foreground is the B-275 rotary table.

Two-R Drill Barge . . .

(Continued from preceding page)

is provided by four fans on the second deck which change the air four times per minute. Machinery, bulkheads and overhead in this space are painted with aluminum paint to give maximum visibility with minimum light absorption. Watertight doors in the sides and ends of the machinery room provide access and assist ventilation when weather is fair. This watertight engine room is expected to considerably reduce maintenance costs and corrosion losses.

Also located on the main deck, forward of the mud pumps, are the active mud tanks.

On the same deck aft of the mast substructure are the reserve mud pits, potable water and fuel-oil storage.

Mid-deck . . . Second deck of the barge contains the auxiliary machinery space, storeroom, crew change room and a dry mud storage room directly over the mud tanks.

Auxiliary machinery space contains two 15 hp Quincy air compressors, a 200 amp welding machine, Hydril blowout preventer accumulator unit, two Electric Machinery 125 kw generator sets, an electric power distribution board from McIntosh Electric, and heat exchanger system for the unit's eight turbocharged diesel engines. The heat exchanger system was designed by Frank Birdsong, New Orleans representative of the Young Radiator Company.

Drilling floor . . . Third deck is the drilling floor, 24-ft. above the main deck. This deck has the spaciousness of a standard derrick with the convenience of a cantilever mast. It also gives more than adequate well-control equipment clearance.

Here is located the driller's console and the Bethlehem catworks driven by an individual Waukesha turbocharged diesel engine mounted in back of the catworks.

Mast . . . The 142-ft. Lee C. Moore mast lays down toward the bow of the barge rather than over the slot end. This puts the weight of the mast over the bow, decreasing the draft of the barge.

Mast is of the open type giving maximum visibility and a racking capacity of 17,000-ft. of 5-in. od drill pipe.

Forward of the drilling floor is an open-deck space for storage of additional equipment.

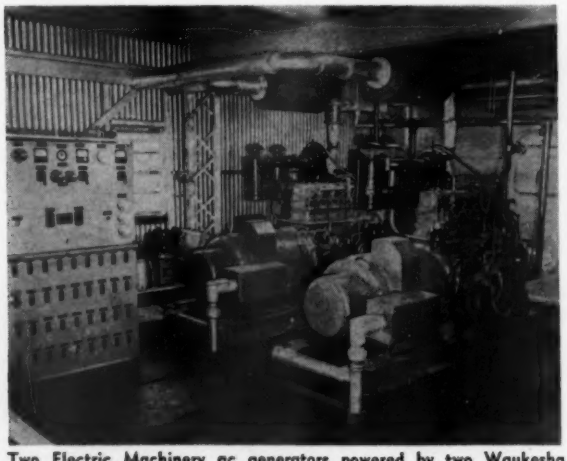
On the same deck, on the bow of the barge, are air conditioned quarters for 22 crew men.

Three separate sets of stairs provide quick access to any part of the barge, both for normal operation and emergency exit. In spite of the addition of the heavy machinery and two complete decks, the unit's compact arrangement saved so much weight that the present draft of the barge is approximately 18-in. less than when the barge went into Morgan City for conversion.

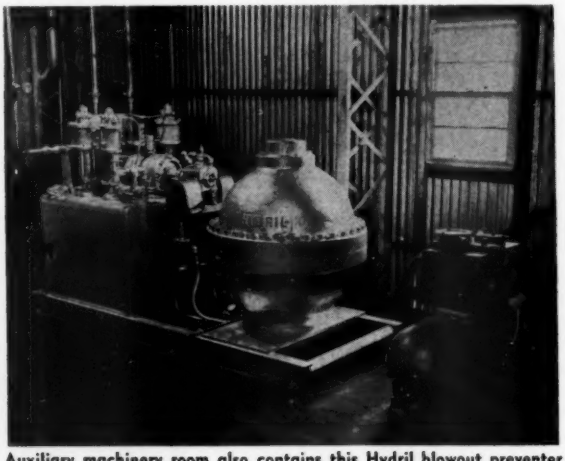
Barge **Two-R** is the sixteenth barge outfitted at the Reagan Tool Company plant since their relocation to Morgan City from Natchez, Mississippi in June, 1955.

Barge christening . . . Co-sponsors for barge **Two-R's** christening were Miss Loretta Rebstock, daughter of J. J. Rebstock, Jr., secretary-treasurer of Two-R Drilling Company,

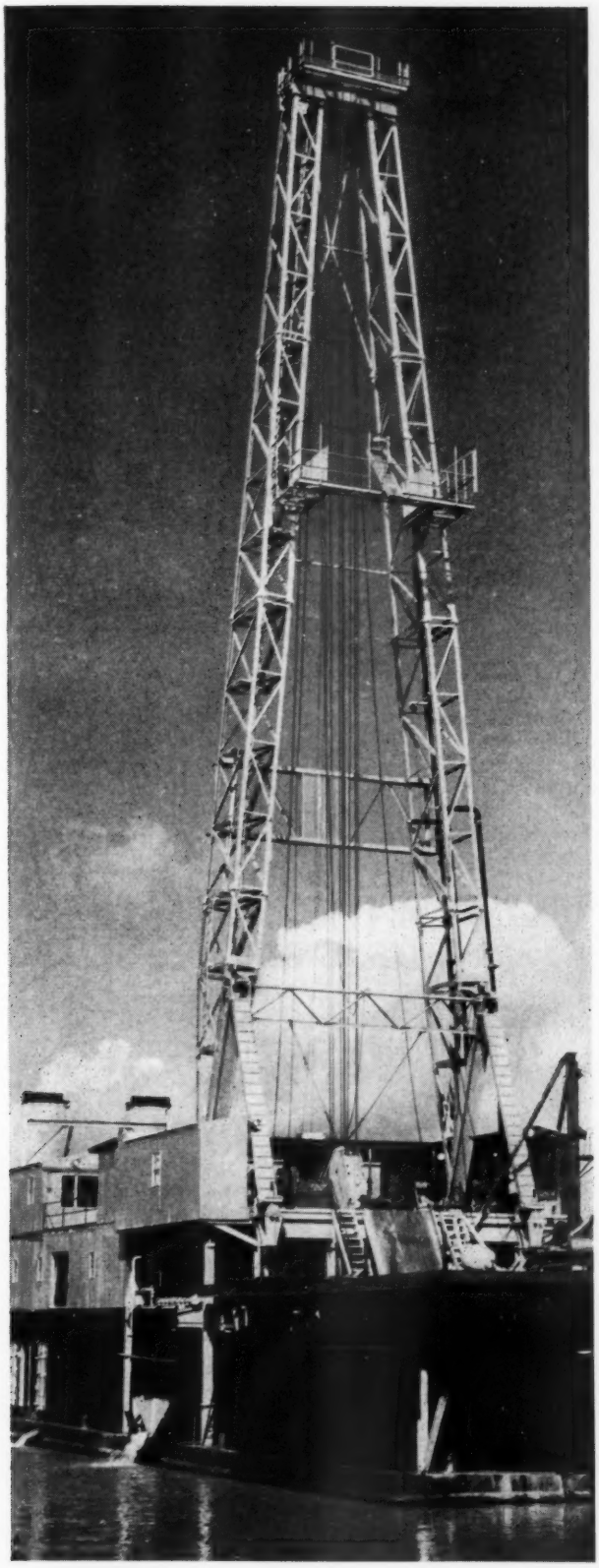
(Continued on page 16)



Two Electric Machinery ac generators powered by two Waukesha diesels provide auxiliary power for barge operations. All eight diesels aboard the TWO-R are equipped with Kittell mufflers for reduction of sound and vibration.



Auxiliary machinery room also contains this Hydril blowout preventer accumulater, welding machine, dry mud storage bins, heat exchanger system, air compressors and crew change room.



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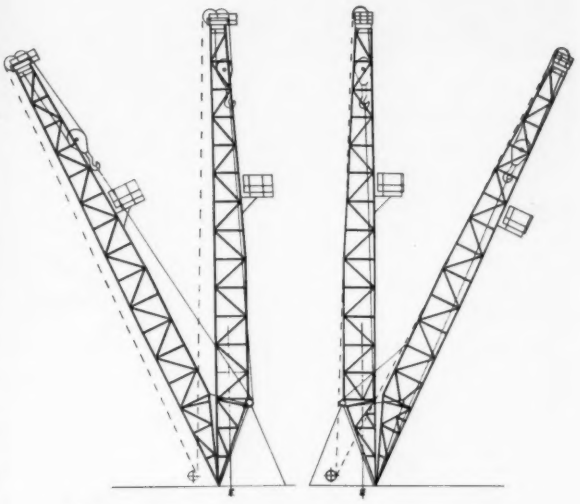

- Particularly adapted to **compound use** or dual application of drilling operations plus material handling operations.
- Can be furnished to lower in either direction: forward over the pipe racks or to the rear over the drawworks.
- Uses the time proven Lee C. Moore method of raising and lowering by means of gin pole, with mast passing through center of gravity in reaching its final operating position.

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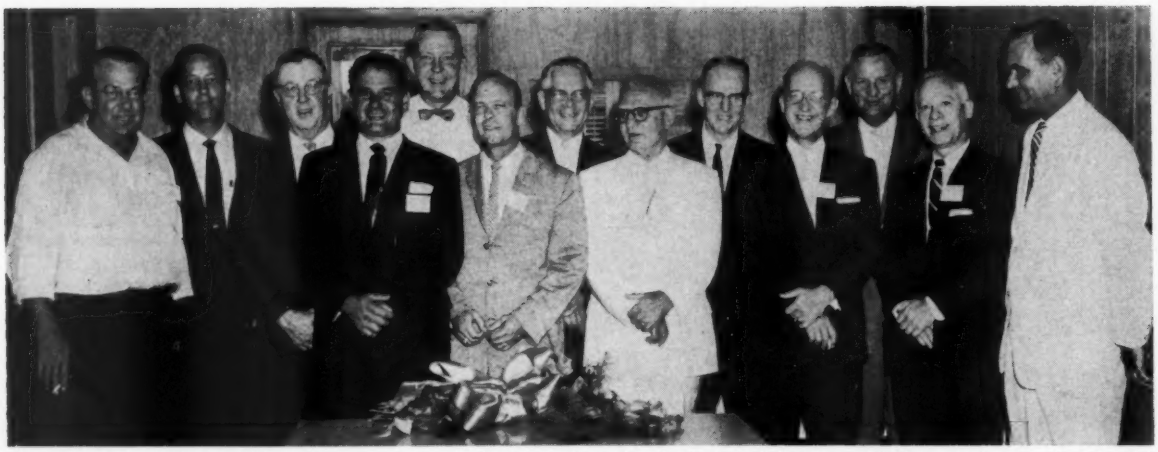

Representatives of Two-R Drilling Company and supply firms attending the christening of drill barge TWO-R include from the left: Bob Reeves, vice president Two-R Drilling Company; Dean Shank, Bethlehem Supply Company; Tom Reagan, president of Regan Tool Company and Reagan Equipment Company; J. J. Rebstock, Jr., secretary-treasurer of Two-R; W. L. Hawkinson, Bethlehem; Earl Bridges, vice president of sales for Reagan Equipment; George Duncan, Waukesha Motor Company; J. J. Rebstock, president of Two-R; C. R. Zimmerman, president of Bethlehem; Christian Segar, vice president of Bethlehem; F. C. Schulze, sales manager for Waukesha; E. R. Rutenber, assistant chief engineer of Waukesha; and Frank Riess, vice president and general manager of Regan Tool Company.

Two-R Drill Barge . . .

(Continued from page 14)

and Miss Margaret Ann Reeves, daughter of R. H. Reeves, vice president of Two-R. Over 250 oil industry executives attended the commissioning and luncheon which followed the ceremony.

Reagan Tool Company officials on hand for the christening included Tom Reagan, president; Frank Riess, vice president and general manager; Marcel Lambert, production engineer; Sidney Jambois, general superintendent; Ano Aucoin, yard foreman; and Ira Caldwell, field representative.

Earl Bridges, vice president-sales, Walt Lester and Johnny Weinnig, sales engineers, represented Reagan Equipment Company at the ceremonies.

Attending the christening from the Bethlehem Supply Company were C. R. Zimmerman, president; Christian Segar, vice president; H. E. Davis, chief engineer; L. G. Bottis, division credit manager; B. S. Mathews, special sales; C. G. Crider, general manager of stores; J. V. Spalding, Gulf Coast division manager; Bill Varth and Dean Shank, machinery sales; and H. L. Hawkinson, assistant machinery sales manager.

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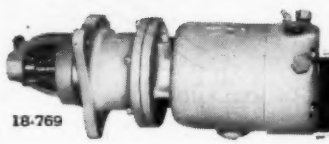

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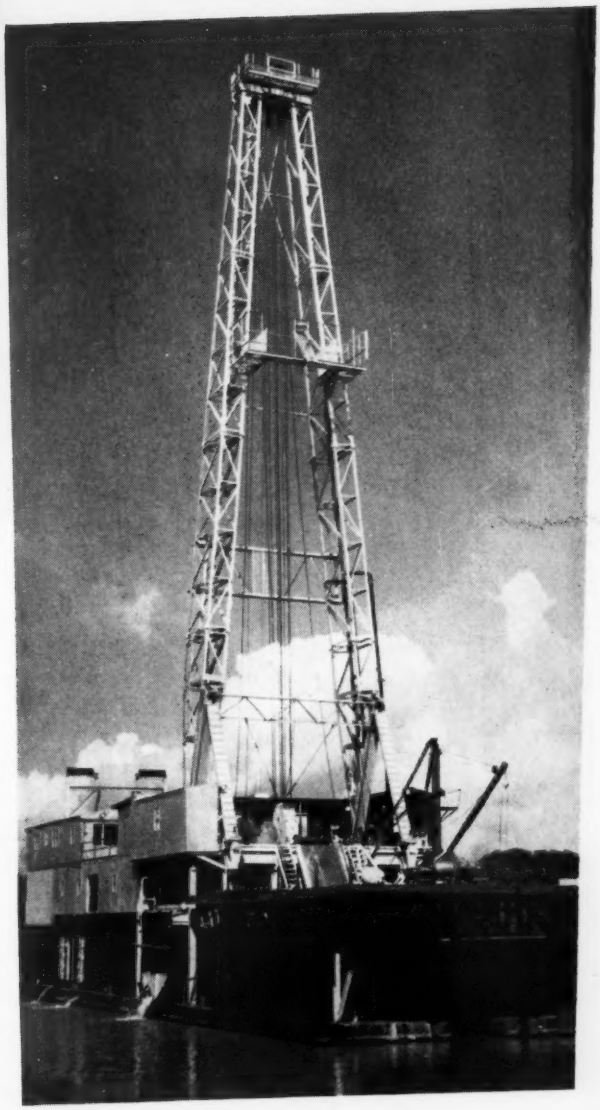
for Barge 2-R



REAGAN

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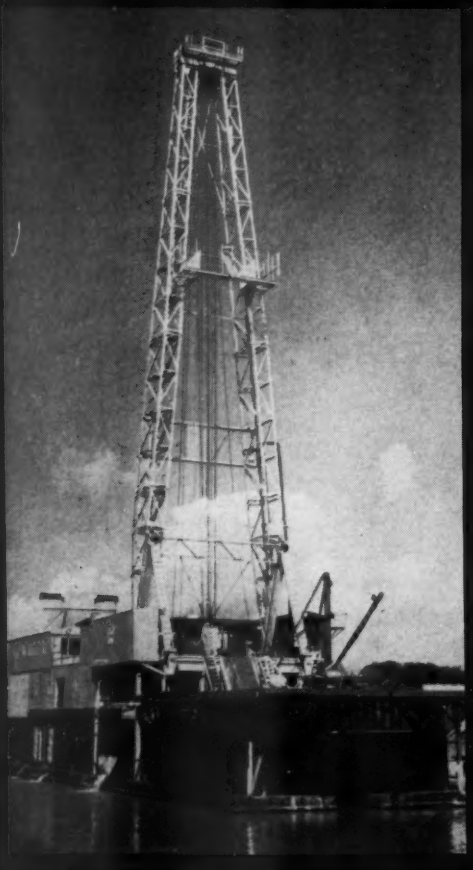
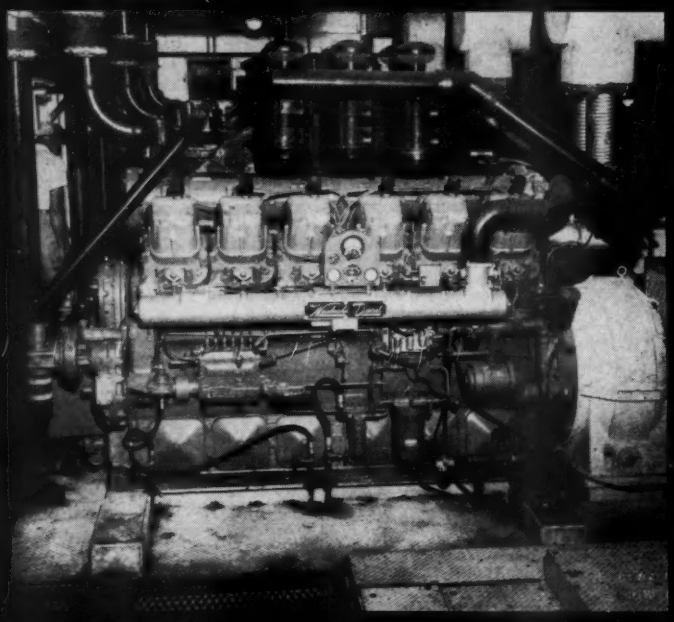
BARGE 2-R EQUIPPED WITH WEATHERHEAD



Barge 2-R, which was recently commissioned, is equipped with Weatherhead hose assemblies and tube fittings to insure dependable connections.

Weatherhead has served the "lifelines of industry" for 36 years, earning the confidence of the nation's leading manufacturers. This reputation has been achieved through constant care for quality standards and improvements of technical skills and facilities. When you buy Weatherhead, you buy dependability.



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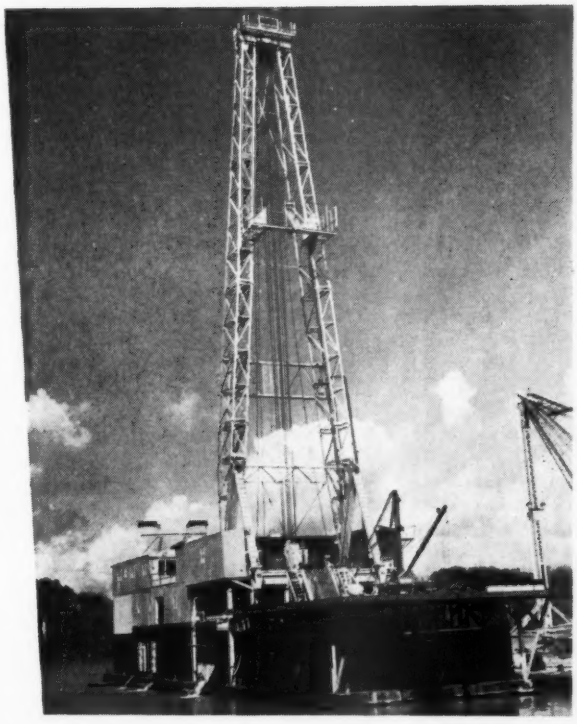
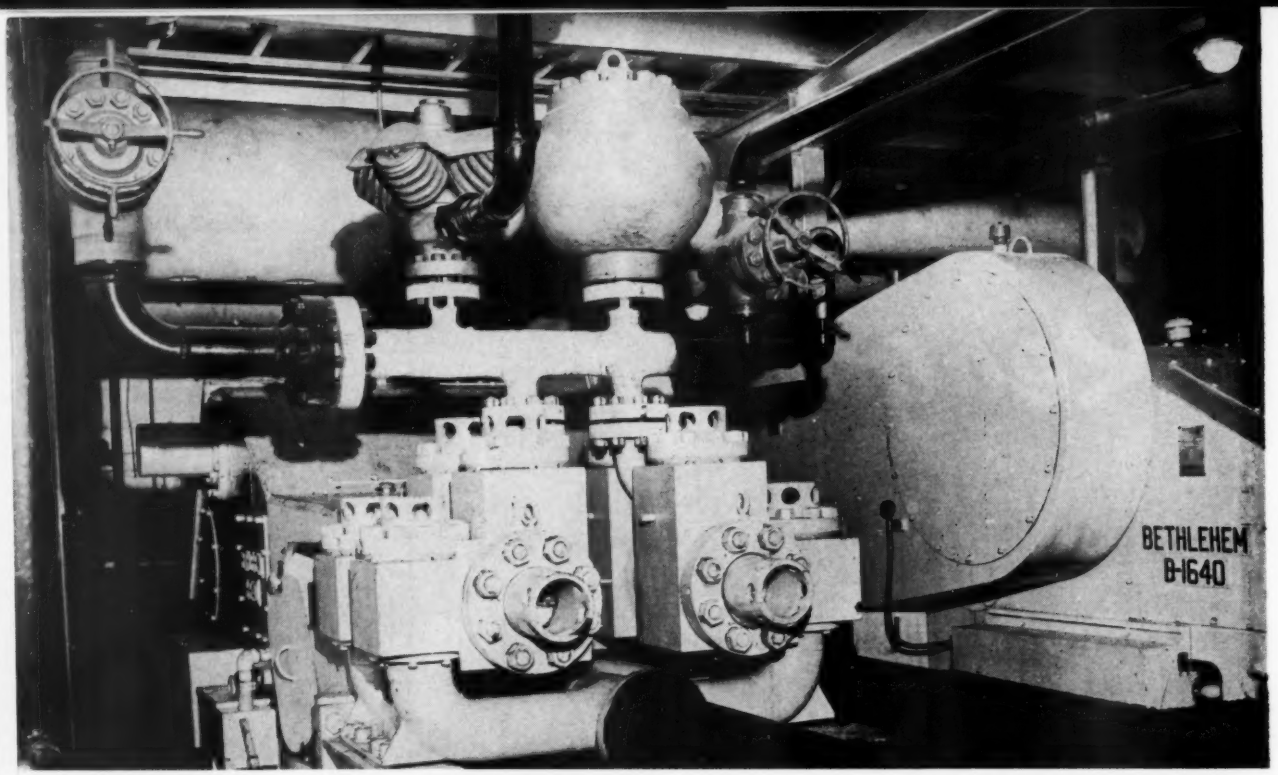
BARGE 2-R
RIGGED BY
Reagan



ABOVE:
Aerial View of the Reagan Tool Company in Morgan City, Louisiana featuring the 100 Ton at 70′ Radius Stiff Leg Derrick.

ABOVE:
Barge 2-R—Length 170′, Width 45′, Depth 12′ with a Drilling Depth Capacity of 25,000′. This unit incorporates many new ideas in barge rig construction including remote draw works control, new open-type mast which folds to the bow instead of to the stern, and a new concept in machinery placement which makes possible maximum stability and minimum draft.

Reagan
TOOL COMPANY
Highway 90 East Morgan City, La.
Phone 6484



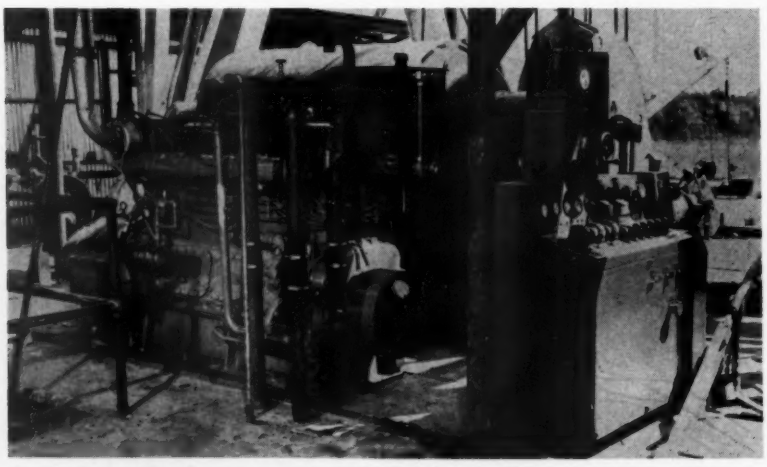
These three Waukesha VLRDBSU turbocharged diesels supply power to the drawworks and mud pumps. Each of the engines is equipped with an Ingersoll-Rand air starter, torque converter, and Kittell muffler. Cooling system for all eight of barges engines was especially designed by a Young Radiator Company representative. A unique safety alarm and shutdown system was design and installed by Reagan Equipment Company, supplier of the engines.

Rig Two-R's . . .

Drilling Equipment

POWER plus is the term for Two-R Drilling Company's new inshore drill barge. Larger and improved drawworks and mud pumps allow this unit to drill a 12-in. hole to 13,000-ft., or a 6-in. hole past 25,000 ft. Capacities such as these, plus compact economy, make it a leader among Gulf Coast drill barges.

Drawworks . . . Two-R's powerful Bethlehem B-3661 drawworks is driven from a B-144-3EB compound powered by three Waukesha VLRDBSU turbocharged diesel engines supplied by Reagan Equipment Company of New Orleans.



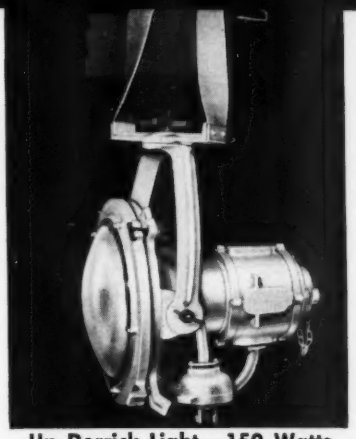
Rear view of drilling floor shows Waukesha NKDBSU turbocharged diesel that drives catworks and rotary. At the right is the drillers control panel and Martin-Decker weight indicator.

Drawworks is located on the lower deck in the watertight machinery room for greater protection against weather and to conserve power and space.

To perform the functions of driving the B-275 rotary table, catheading and sandlining, Bethlehem designed a new unit known as the BCR-60 catworks. This is a rugged unit with greater capacity than most catworks or small drawworks used as catworks. The BCR-60 catworks is powered by an individual Waukesha turbocharged diesel. Controls for both the catworks and the drawworks are centralized in one panel for easy operation by the driller. A Martin-Decker weight indicator is located next to the driller's control panel.

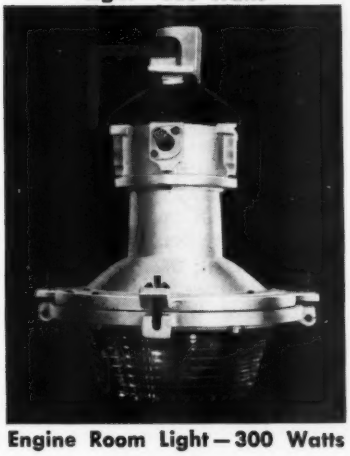
Brakes . . . Three different braking systems are available for control of the main drawworks. The counterbalanced mechanical system is easy to operate, and for emergency use an air brake can be applied at either the drilling console or at

(Continued on page 22)



Up Derrick Light — 150 Watts

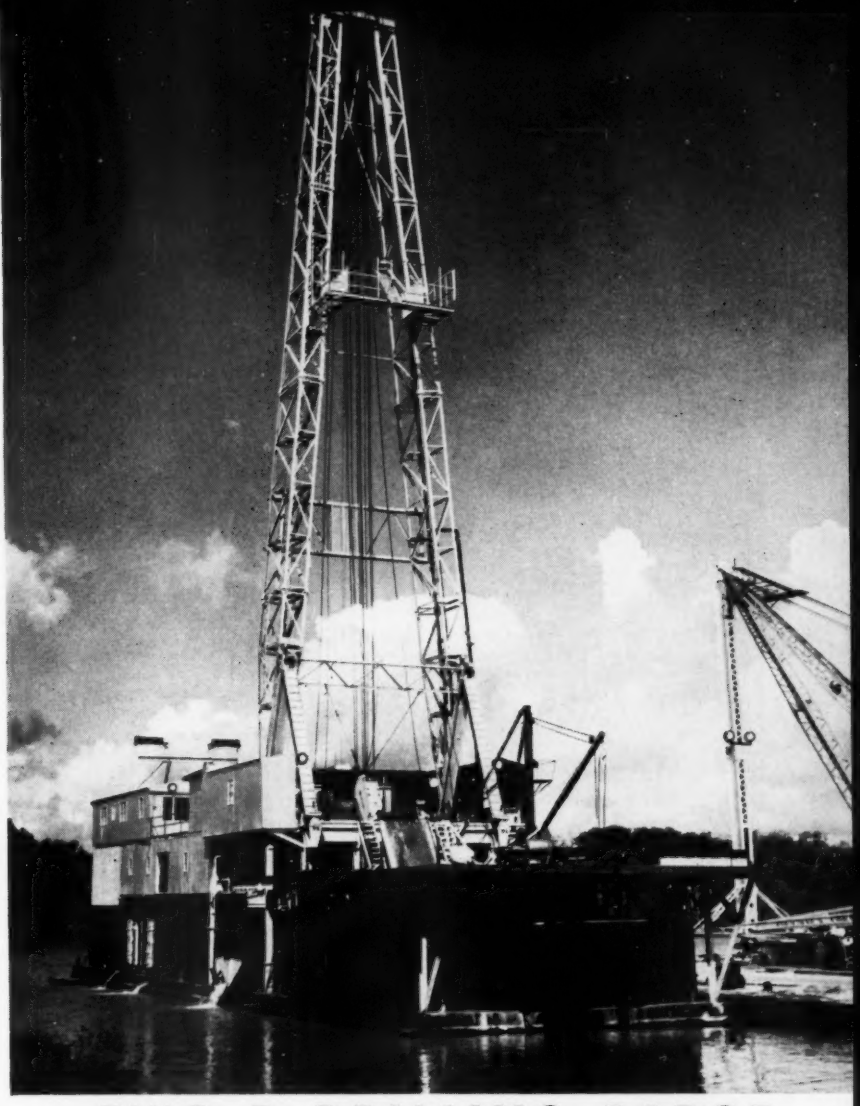
Derrick Floor and Pipe Rack Light — 300 Watts



Engine Room Light — 300 Watts

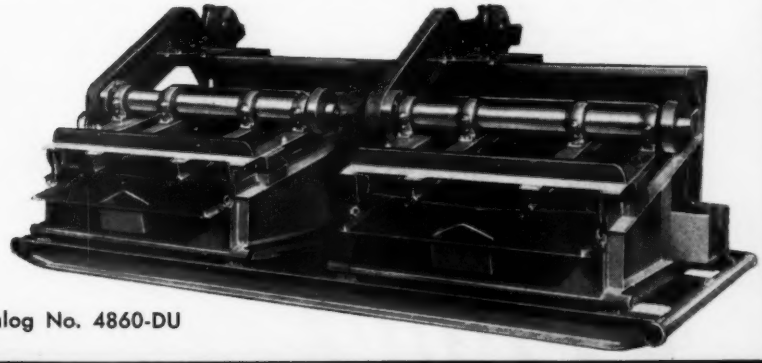
"RUMBA" DUAL SHALE SHAKER SELECTED

The high cost of mud and fresh water on offshore locations caused the owners of the Two-R to select "RUMBA" Shale Shaker with sand removal features built into it.



TWO-R DRILLING BARGE

Owners increased the efficiency of this drilling barge by speeding it up, reducing chances of fishing jobs by efficient lighting on traveling block and floor. The owners made a thorough study of lighting planes and equipment before selecting "FLOLIGHT."



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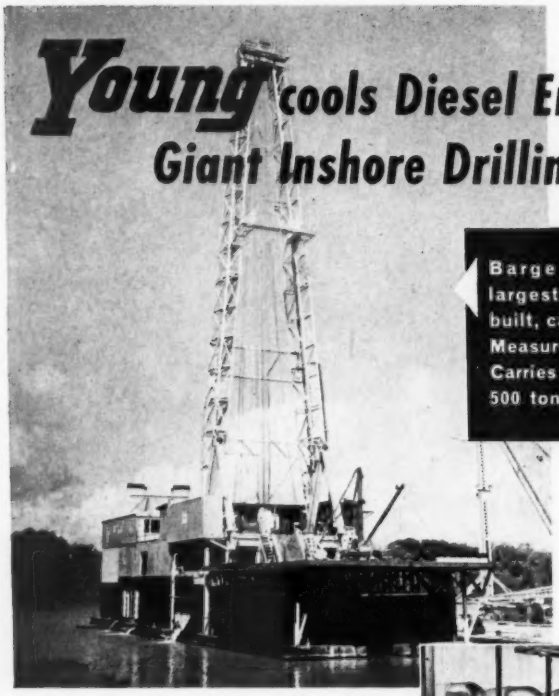
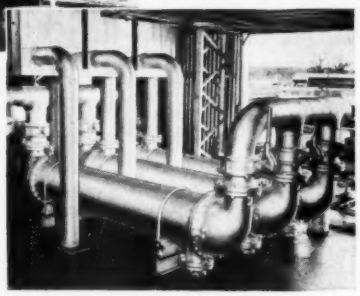


Barge 2-R, one of the largest inshore barges built, can drill to 25,000 ft. Measures 170′ x 45′ x 12′. Carries 22-man crew. Has 500 ton derrick 142′ high.

All power units installed by Reagan Equipment Co., New Orleans, La.



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Barge 2-R is equipped with a Bethlehem Compound Power Unit with an input of 3000 hp by three 1000 hp diesel engines. Three Young Type "R" Single-Pass Removable Tube Bundle heat exchangers using raw seawater keep the engine jacket water at 167F under the most rigorous operating conditions. The use of zinc pencils in the exchangers keep galvanic corrosion under control. The removable tube bundles make periodic inspection and maintenance fast and easy.

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Miss Loretta Rebstock, daughter of Two-R Drilling Company's secretary-treasurer, gives drill barge TWO-R the traditional swat with a bottle of champagne in recent Morgan City ceremonies.

Drilling Equipment . . .

(Continued from page 20)

the drawworks in the main machinery room on the first deck.

Third brake is a Model 6821 Elmagco electric magnetic particle brake with automatic feed-off control furnished by The Baylor Company of Houston. Since this brake has a torque capacity independent of rotating speed, it can be used to control feed-off on the bit. In case of a twist-off, the circuit will hold its position at that point. Engine throttle controls and pump clutch controls are also located on the drilling floor and on the main deck.

Mast . . . The new mast, designed by Lee C. Moore Company especially for this rig, is 142-ft. high with a 32-ft. base and a 6-ft. clear opening beneath the crown block. It has an API equivalent derrick capacity of one million pounds.

Mast is also unique in that it lays down toward the bow of the barge rather than over the slot end. This puts the weight of the mast over that portion of the barge which has the most buoyancy, thus decreasing the barge draft. Mast is open-type with maximum visibility. A racking capacity of 17,000-ft. of 5-in. od drill pipe has also been provided for this particular installation.

Mud system . . . Mud system, including the two Bethlehem B-1640 mud pumps powered from the

main compound and a G-150 mud-mixing pump individually powered, are located in the watertight engine room on the main deck.

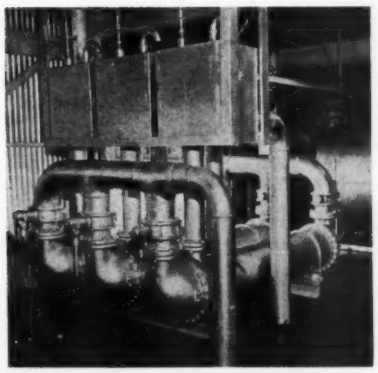
Forward of the three mud pumps are the active mud tanks consisting of desander tank, slugging tank, settling tank and suction tank. Capacity of this system is 900 bbls. Suction connections are provided so that any pump can take suction from any tank.

Maximum horsepower available to the main mud pumps totals 2550 hp and either mud pump can be driven at a rate of 2000 hp at top speed with three engines. Two engines will drive one pump at approximately 70 strokes per minute and 1600 hp. Torque converters permit complete speed flexibility from 0 to 90 strokes per minute with a working presure of 4570 psi on the 6-in. liners.

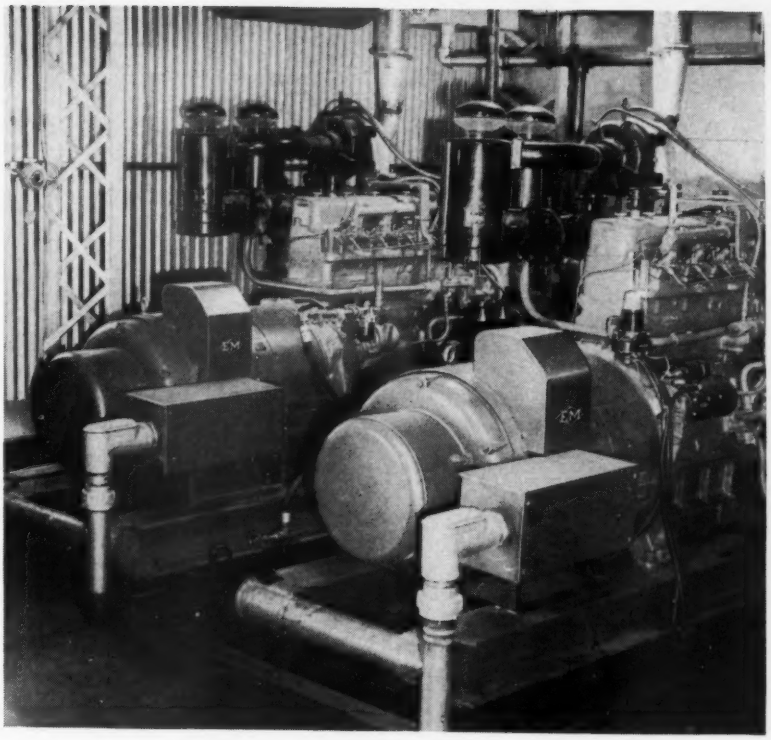
Main pumps have forged-steel fluid ends. The piston-rod load capacity of these pumps is 129,200 lbs. The 6-in. discharge system is equipped with the new 6-in. Series 1500 Cameron F Valve in lieu of conventional mud valves.

On the main deck aft of the mast substructure are the 900 bbl. reserve mud pits.

On the second deck directly over the mud tanks is the dry mud storage room. Sack mud is fed into hoppers and dropped between two 10 hp electric agitators for complete mixing. The agitators are so spaced that they can turn the mud in the 19-ft. by 19-ft. suction tank once a minute. Sack mud and chemicals are lifted to the second deck storage area by means of an elevator powered by Quincy air hoists.



Three Young shell and tube heat exchangers are used in the specially designed cooling system. Raw water cooling is provided for all eight of the barges diesels.



Two 125 kw, 0.8 PF, 1200 rpm, 240/480 volt E-M AMP-PAK "Packaged" Synchronous Generators provide the main electrical power for Two-R Drilling Company's drilling barge.

Barge Two-R Equipped With E-M

The rugged E-M AMP-PAK "Packaged" Synchronous Generator is specially engineered for heavy duty. It has no moving parts in the excitation or regulation systems. A heavy-duty, long-life static rectifier and magnetic amplifier replace the old fashioned type exciter with its commutator, brushes, and rotating parts. There are no vacuum tubes, no vibrating contacts in the voltage regulator.

Backed by over 50 years of E-M generator engineering and application experience, the Offshore Generator offers the utmost in dependable a-c power. It's engineered and constructed with that extra attention to detail you get only from E-M. This is your best assurance of an efficient generator needing only a minimum of attention.

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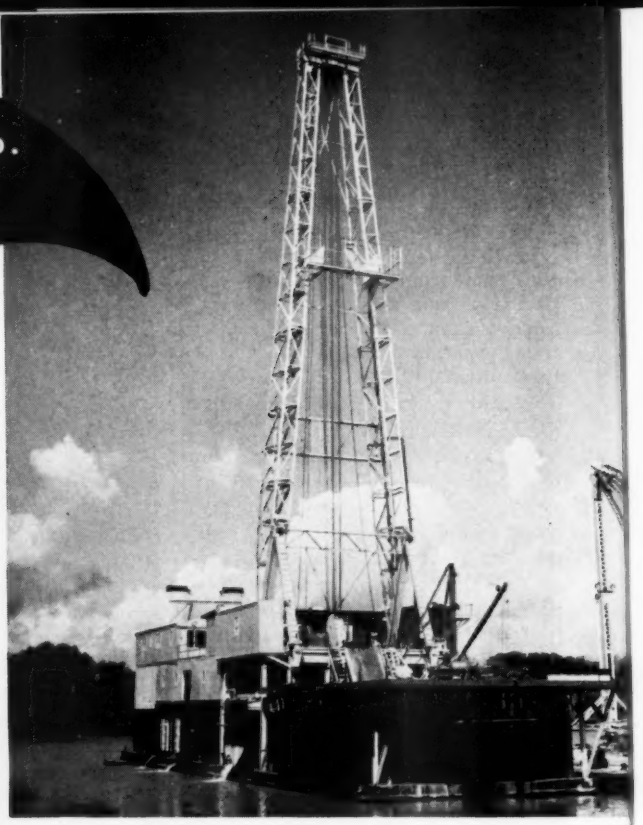
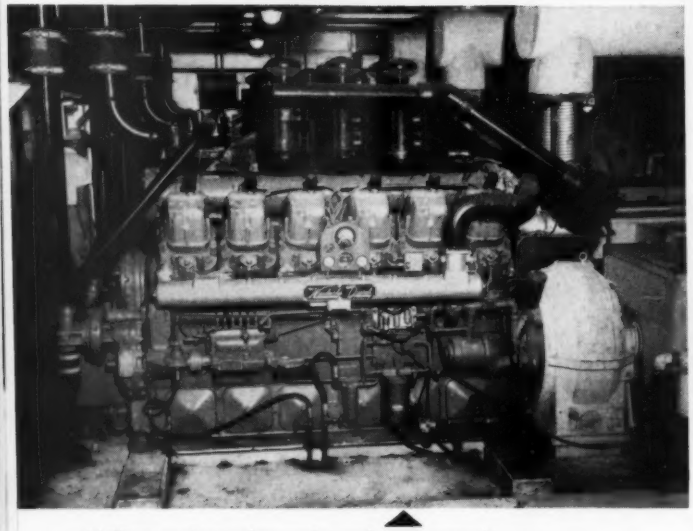
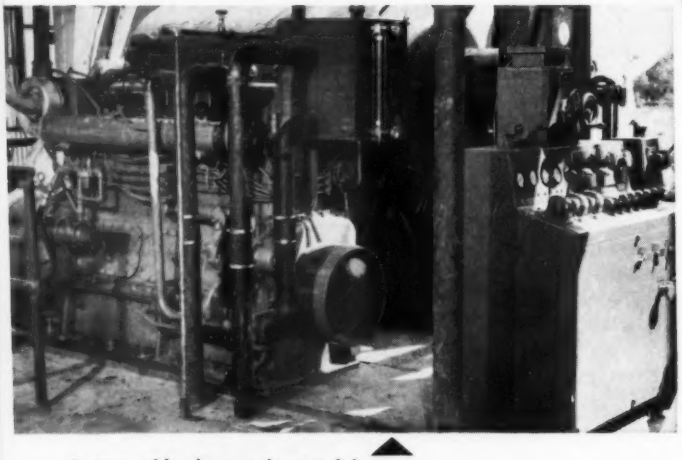
2100-TPA-2188

NEW Two-R Drilling Co. BARGE No. 1





(drilling engines—drawworks and mud pumps)
Three Waukesha VLRDBSU Turbocharged 12-cyl. Diesels



(rotary table drive and catworks)
Waukesha NKDBSU Turbocharged Diesel

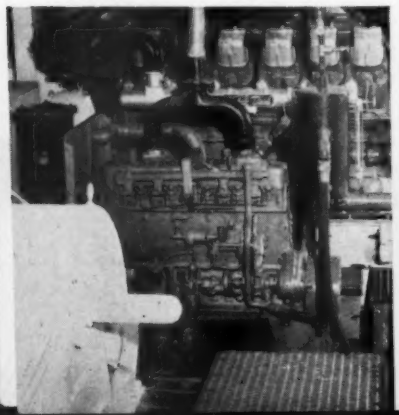
all-WAUKESHA POWERED

Recently commissioned at Morgan City, La., Barge No. 1 has a 25,000′ capacity drilling rig. The mast, 142′ high x 32′ at base, has 1,000,000 lb. lifting capacity. Barge is completely powered by Waukesha Diesel Engines, each of which has its own heat exchanger-surge tank system. The barge itself is 170′ long, 45′ wide, 12′ deep, with a substructure 24′ high; has living quarters for 22 men. It was built for Bethlehem Supply Co. by Reagan Tool Co. for delivery to Two-R Drilling Co. Reagan Equipment Co. supplied the Waukeshas. Get bulletins.

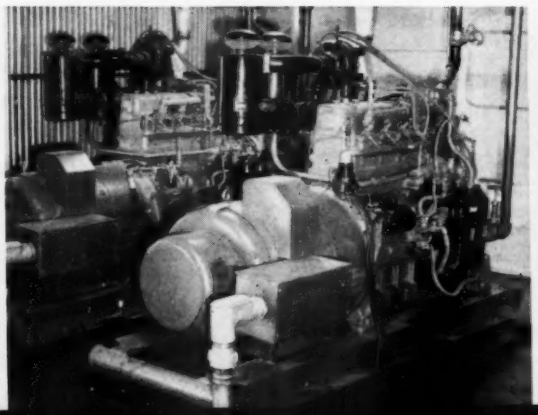
WAUKESHA MOTOR COMPANY, WAUKESHA, WISCONSIN
New York • Tulsa • Los Angeles

396

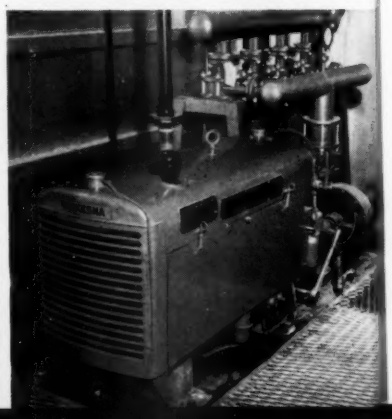
(mud mix pump)
Waukesha WAKDU Normal Diesel

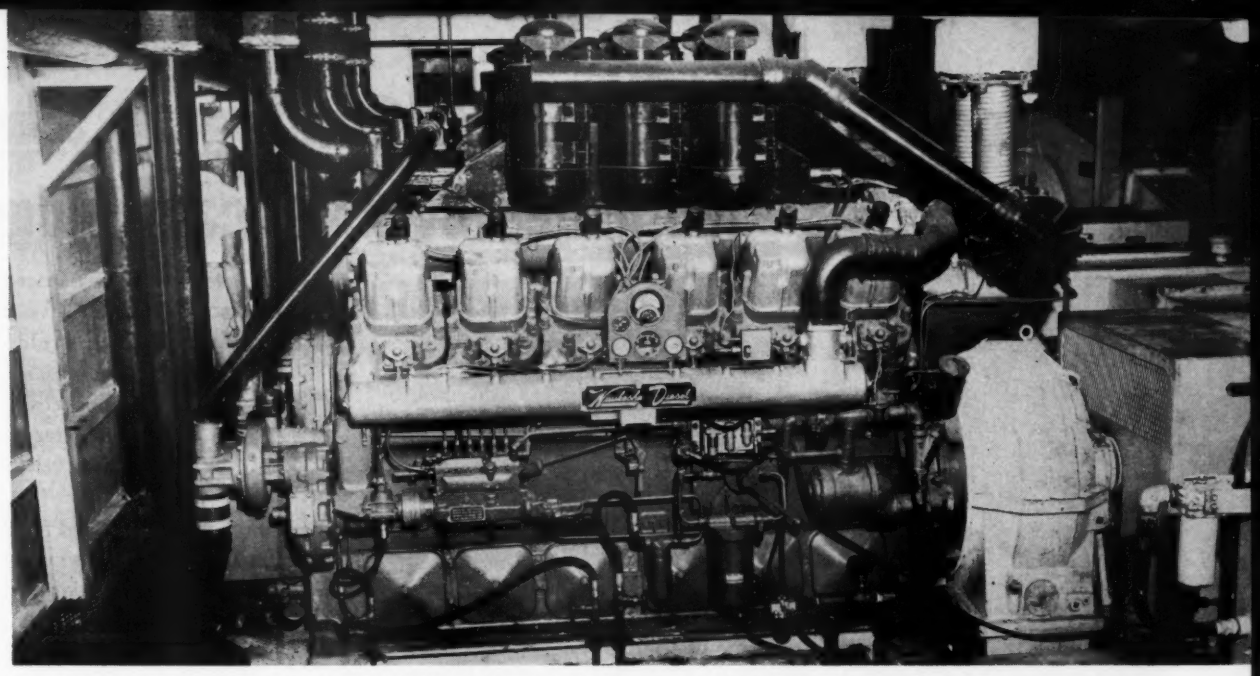


(main electrical power) Two Waukesha WAKDBSU Turbocharged Diesel 125 KW Enginators



(de-sander unit)
Waukesha 190-DLCU Normal Diesel





Two Bethlehem B1640 mud pumps, rated at 2000 hp each, provide high-pressure mud circulation for deep drilling. Torque converters permit complete speed flexibility from 0 to 90 strokes per minute with a working pressure of 4570 psi on six-inch liners. Discharge system is equipped with the new six-inch Cameron Series 1500 F valve.

Compact arrangement gives Two-R . . .

Efficient Power

SHORT drives and torque converters give drill barge **Two-R** maximum power from its eight Waukesha turbocharged diesel engines. All eight engines were supplied by Reagan Equipment Company of New Orleans.

Main power . . . Three Waukesha VLRDBS turbocharged diesels supply power through a Bethlehem B-144-3EB compound to drive drawworks and mud pumps.

A special cooling system was designed by Frank Birdsong, New Orleans representative of the Young Radiator Company, for the eight Waukesha turbocharged diesels that provide drilling and auxiliary power. Three Young shell and tube heat exchangers are used in the system to provide raw water cooling for the engines.

All eight of the diesels—two powering the D-E sets, one the independent rotary drive, one the desander unit, another the mud mix pump, and the three driving the main compound—are equipped with Kittell engine mufflers to reduce sound and vibration. Each of the eight engines is also equipped with an Ingersoll-Rand air starter.

Weatherhead hose and fittings are used on the diesel engine hookups for the generator power, drilling engines, mud mix pumps, the independent rotary drive and on the air starting equipment of the drilling engines.

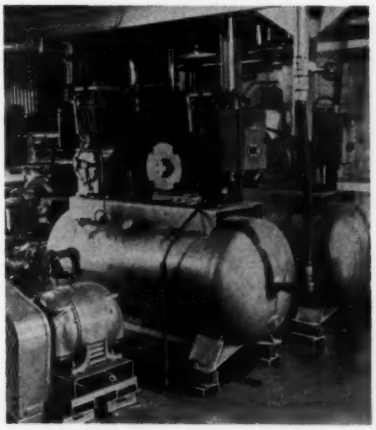
Barge **Two-R** has a unique engine alarm and safety shutdown system designed and installed by Reagan Equipment Company. The system includes engine runing lights, shutdown lights and alarm horn working in conjunction with the engine safety switches for protection against engine high water temperature and low oil pressure. This device will automatically cut off the fuel supply to the engine and disengage the air clutch, eliminating a dragging engine from the compound.

Auxiliary power and equipment . . . In the auxiliary machinery space located on the second deck are two Electric Machinery ac generators powered by two Waukesha 6-WAKDBSU turbocharged diesels. These D-E sets provides electric power for barge lighting, "Flolight" derrick lights furnished by Hutchinson Manufacturing Company, and other electrical equipment on the barge.

Also located in the mid-deck is a 200 amp Lincoln welding machine and the Hydril blowout preventer accumulator.

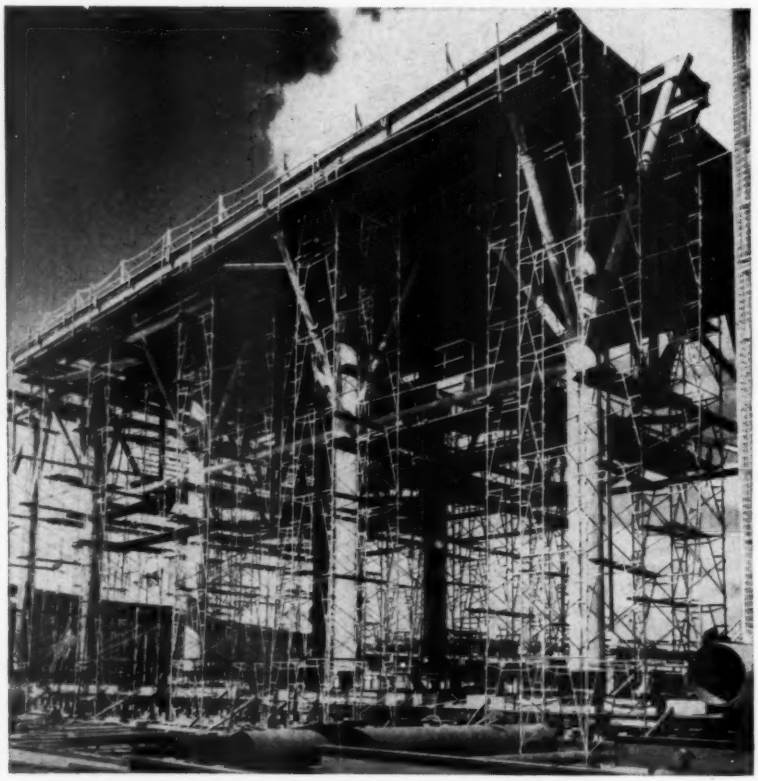
Auxiliary service water pumps are in the main machinery room on the lower deck.

Crew quarters . . . Completely air conditioned crew quarters for 22 men, including dining room and lounge area paneled in natural mahogany, are located forward on the drilling deck. This location is ideal in that personnel are close to the drilling operations and yet far enough away from the main engines and generators that these units are not disturbing to them.



Two 15 hp Quincy air compressors provide power for the mud elevators and air controls.

1000-ton offshore drilling platform fabricated by American Bridge



American Bridge recently fabricated this giant self-contained drilling platform for Phillips Petroleum Company. The platform measures 88′ 9″ by 140′ and is supported by 16 steel piles 30″ in diameter and 195′ long. Its total weight is 1,032 tons.

Four units were fabricated for the platform: two deck sections and two jacket sections. These sections were delivered to Phillips, which erected the platform in the Gulf of Mexico.

American Bridge has the facilities, the engineering staff, and the experience to design and construct all types of offshore equipment. Your inquiries directed to American Bridge Division, United States Steel Corporation, 655 M & M Building, Houston, Texas, or Park Road, Ambridge, Pennsylvania, will receive prompt attention.

USS is a registered trademark

This photo shows two sections of the drilling platform being shipped from the Orange Ways of American Bridge. The huge barge carrying these sections is one of two recently built for J. Ray McDermott & Co. by American Bridge at the Orange Ways.

American Bridge Division of USS United States Steel

Marine Department: Ambridge, Pennsylvania—Houston, Texas · Ways at Ambridge, Pa., Trenton, N. J. and Orange, Texas

Drilling Begins This Month On Two California Leases

September is zero month for California's first new offshore drilling operations in more than a year.

On the 5500-acre lease off Summerland, the initial wildcat will be spudded about September 15 from the state's first stationary steel platform.

And on an earth filled island off the coast from Rincon, Richfield Oil Corporation expects to begin its first well on a 1175-acre lease.

The Summerland lease was acquired by Standard Oil Company of California, Western Operations, Inc. and Humble Oil and Refining Company in 1956 before offshore leasing halted and before the Shell-Cunningham Act was revised. Therefore, it must pay royalties of 12.5 percent in event oil is discovered.

Operator on the lease, Western Operations, Inc., will be able to drill up to 25 wells without moving its $2.3 million platform. Added feature is the rig's ability to drill two wells simultaneously through the use of two crown blocks and two separate hoists mounted on a 140-ft. Lee C. Moore derrick.

Richfield's drilling island accommodates up to 68 wells, with its acre of working space screened from the mainland by palm trees. Tetrapods bulwark the western seawall against 20-ft. waves rolling in off the Pacific Ocean.

The company holds a permit from the Army Engineers for a second island more than a mile from shore in 64-ft. water; however, it will not be built before results are achieved with the existing structure.

No doubt oil will be discovered since Richfield drilled six core holes before building the island. One was drilled to 4100 ft. and production tests run.

Paria Operation's New Test Approaches Goal at 11,500 Ft.

Results should soon be forthcoming on Paria Operations, Inc.'s second well on the Venezuela side of the Gulf of Paria.

The Posa 103-A-1 is projected to a maximum depth of 11,500 ft., and at last report, the operator was drilling beyond the 10,000-ft. mark. Location is four mi. northwest of the Posa 112-1, initial discovery on the lease which made 1500 bbls. of crude per day from two zones.

Paria Operations has used permanent type platforms for both operations. This fall, Loffland Brothers Company of Tulsa will move a 25-well platform into the area.

On the Trinidad side of the Gulf of Paria, ten mi. from the Posa 112-1, Trinidad Northern Areas, Ltd. has four wells producing 2000 bbls. daily, all in the Soldado field.

A variety of drilling operations is in use here including a core drilling vessel operated by The Offshore Company, Baton Rouge, La.; a multiwell platform able to handle up to 36 wells, and a newly arrived mobile unit named the DeLong 141 and operated by Texaco Trinidad, Inc.

New State's Oil Structures May Top Middle East's Best

Alaska may have oil pools that exceed even the best structures of the Middle East, states Michel T. Halbouty, Houston independent oil operator.

Halbouty recently inspected 1.25 million acres on which he holds oil and gas rights in the newest state. His acreage, which contains prospective oil bearing structures up to 50 mi. long, extends from the Alaskan and Kenai Peninsulas to the Porcupine Basin near the Arctic Circle.

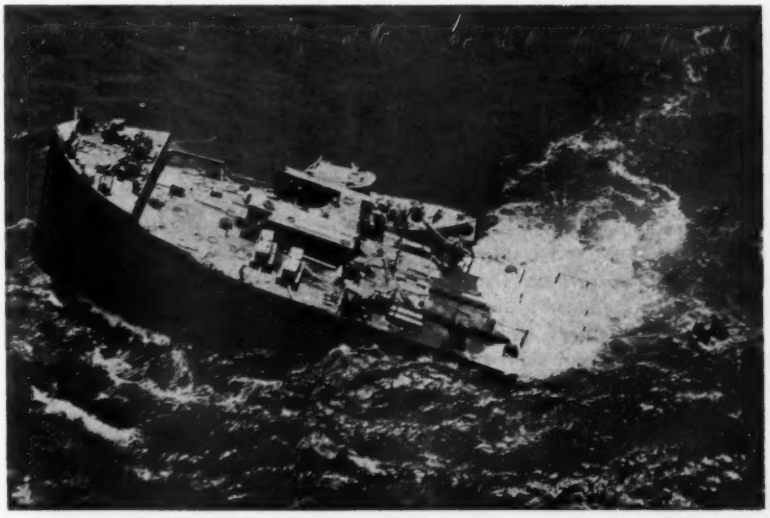
Steel Price Hike Adds to Offshore Contractors Burden

Beset with their share of problems already, offshore operators now have to cope with a rise in the cost of steel products.

Industry officials estimate that the additional cost to operators as a result of price hikes on tubular products alone will amount to $40 million.

The hike came at a time when most companies had already shown profit declines for the first half of 1958 when costs rose faster than income. Most operators have yet to experience the full effects of the steel price rise since they are utilizing such money saving techniques as reclaiming pipe from old wells

(Continued on next page)



Bow of the tender MURNANIL I breaks water during salvage operations in Block 21 of the South Timbalier area. The 306-ft. vessel which was leased from the Murnanil Corporation by Dixilyn Drilling Corporation sank in 35-ft. waters during last year's HURRICANE BERTHA. For the salvage effort, it was stripped of all deck equipment.

News . . .

(Continued from preceding page)

and trading steel products among themselves.

Cost increases on the ton amounted to $5 on line pipe, $7 on seamless casing, $8 on tubing, and $10 on drill pipe.

Steel companies defended their cause by pointing out that their workers had been given wage increases of 20 cents last July 1 which forced them to compensate with higher prices for their products.

President of the Texas Independent Producers and Royalty Owners Association Eugene M. Locke declared that increases in crude prices to meet the extra cost should be only fair. However, it seems unlikely that any major increases in crude oil prices will be forthcoming in the near future.

Alabama

Alabama Tidelands Offering Draws Single Low Bonus Bid

Recent offer of a five-year lease on 144,648 submerged arces off Alabama beneath the Gulf of Mexico and Mississippi Sound drew just one bidder.

Tidelands Development Corporation, already holding a lease due to expire in 1962, offered a bonus of $3,200 and annual rentals of 50 cents per acre.

The offer was taken under advisement by W. H. Drinard, director of the Alabama Department of Conservation.

Alaska

New Kenai Peninsula Wildcat Follows Record Depth Test

On the promising Kenai Peninsula where the last test was a dry hole bottomed at 14,221 ft., Standard Oil Company of California is getting set to drill again.

New wildcat will be sunk 1.5 mi. southeast of Standard's Swanson River discovery well, located on the 71,600-acre Swanson River Unit. This discovery gave operators greater hope for eventual oil production in coastal waters around the Kenai Peninsula. The Deep Creek Unit, where Standard drilled its recent duster to a record depth for Alaska, takes in 62,017 acres. Standard's partner in the venture is Richfield Oil Corporation.

On the Alaska Peninsula about five mi. north of Island Bay, a test is nearing its projected depth of 12,000 ft.

Wildcat, the No. 1 Bear Creek, is a joint venture of Humble Oil and Refining Company and Shell Oil Company, with Humble operating. A discovery here could step up the search for oil in offshore regions surrounding the Alaskan Peninsula.

Argentina

Stepping Up Oil Exploration May Bring Offshore Drilling

Argentina, trying to become self sufficient in oil by 1961, may be due for some offshore exploration.

Letters of intent for marine exploration in Argentina have been negotiated by three American firms.

Sea Drilling Company of New Orleans indicated with a letter of intent good for six months that it may drill for oil offshore from the Comodoro Rivadavia.

Another letter of intent covering

(Continued on page 30)

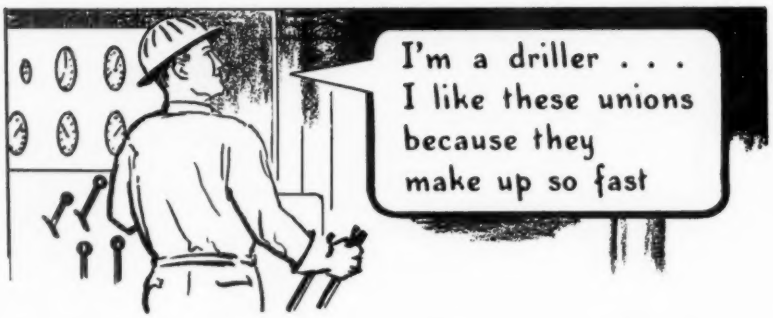


FIGURE 300
O-Ring seal, ¼" through 12", to 10,000 psi working pressure.

FIGURE 303
Mis-aligning; O-Ring seal, 1" through 6", to 5000 psi working pressure.

FIGURE 400
Choke union; O-Ring seal, ½" through 4", to 2000 psi working pressure.

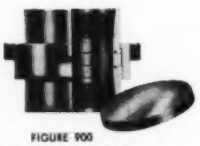


FIGURE 900
Line blind; O-Ring seal, 1" through 12", 2000 psi working pressure.

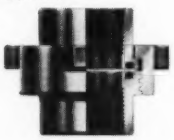


FIGURE 110
Insulated; O-Ring seal, ¼" through 6", to 3000 psi working pressure.

FIGURE 800
Heavy duty, metal-to-metal seal, ¼" through 8", to 10,000 psi working pressure.

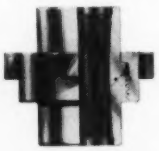


FIGURE 800-R
Heavy duty, O-Ring and metal-to-metal seal, 1¼" through 12", to 10,000 psi, working pressure.

"I guess I'm not much different from the other 50,000 or so men who are running rigs around this country. At the end of a tour, we like to write a good report, and the only way we can do it is to get every job done in the fastest time possible.

"That's why I like these unions. My crew can hook up a line before a cat can lick his ankle, and get back up on the floor where the real work is going on. When they make these unions up, they never need a slam-hammer . . . and once they're made up, they stay made up, regardless of how much pressure we put to 'em. Yea, I like 'em, and I wish I could think that every rig I'll work on from now on will be equipped with them."

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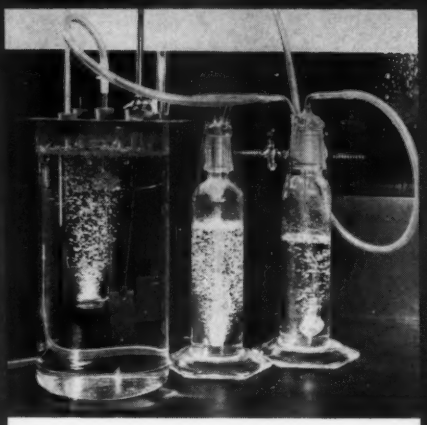
1 Analytical weighing of specimens prior to testing

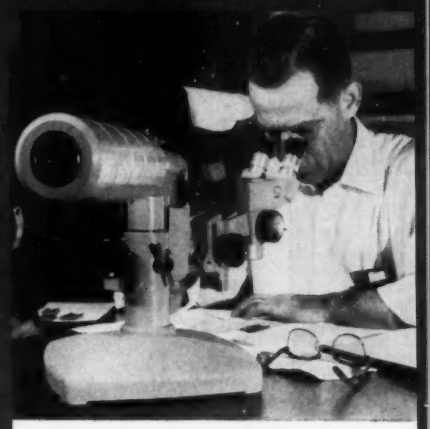


2 Steam condensate corrosion test

3 Cleaning specimens with inhibited hydrochloric acid

4 Second analytical weighing to determine corrosion weight loss

5 Calculation and statistical analysis of laboratory test results



6 Final examination of specimens under low power magnification

Extensive testing program proves new 4-D Wrought Iron more corrosion-resistant than ferrous substitutes

Test results from the Byers Research Laboratory lend documentary support to the superiority of new 4-D Wrought Iron—over standard Wrought Iron as well as ferrous substitutes.

Convincing case-history service records are now further substantiated by the conclusive findings of our metallurgical staff. Some typical results of this testing program are presented in the chart at right.

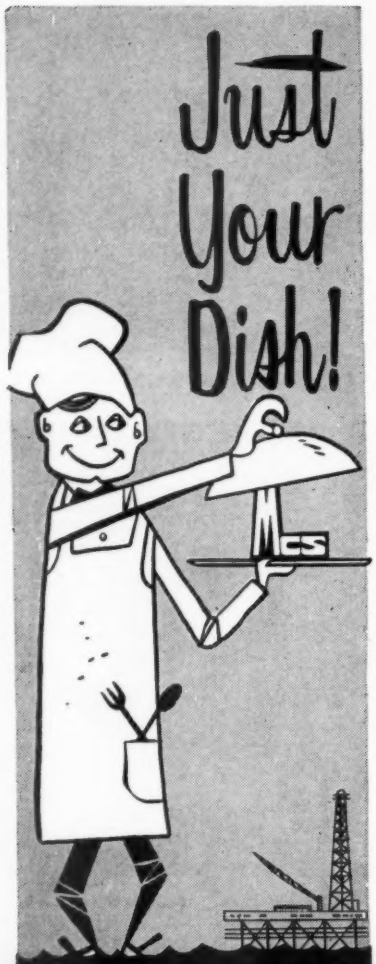
The Byers field service representative will be pleased to relate these test results to your corrosive applications. Write us for helpful literature on new 4-D Wrought Iron. A. M. Byers Company, Clark Building, Pittsburgh 22, Pennsylvania.

BYERS WROUGHT IRON

Comparative Analysis of 4-D Wrought Iron Corrosion Tests

Tests	4-D Wrought Iron	Standard Wrought Iron	Ferrous Substitutes
Severe industrial atmospheric continued exposure 17 years	Corrosion weight loss 540 grams/sq. ft.	Corrosion weight loss 655 grams/sq. ft.	Not included in test
Steam condensate return line	*At least 25% greater corrosion-resistance than standard Wrought Iron	No failures 10 years (still in service)	Complete failure after 2 years
Aerated salt water—5 weeks (Short term test—points indicate 4-D Wrought Iron curve flattening out at much lower rate of attack)	Corrosion weight loss 146 mg/sq. in.	Corrosion weight loss 170 mg/sq. in.	Corrosion wt. loss 226 mg/sq. in.
Brine piping	*At least 25% greater corrosion-resistance than standard Wrought Iron	No failures 23 years (still in service)	Complete failure after 7 years
Salt water, Gulf of Mexico ¼ inch plate —17 years	Corrosion weight loss 4 mils/years (minimum plate thickness now $\frac{3}{16}$") Still in excellent condition	Not included in test	Corrosion weight loss 30 mils/years; plate badly pitted, perforated
Downspout	*At least 25% greater corrosion-resistance than standard Wrought Iron	No failures in 29 years (Still in service)	Complete failure after 18 years

*In this application no long term test data yet available on 4-D Wrought Iron. Results shown are derived from short term tests.



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News . . .

(Continued from page 28)

onshore as well as offshore areas in the Comodoro Rivadavia region has been signed by John W. Mecom and A. F. Duren.

Bahamas

Trouble Hits at 9,500 Ft. But Cay Sal Test Drills Again

The $3 million offshore test on Cay Sal Bank in the Bahamas had to be plugged back after loss of drill pipe more than 1.5 mi. down.

Standard Oil Company of California and Gulf Oil Corporation are sponsors for the proposed 15,000-ft. test called Cay Sal I with Zapata Offshore Company's mobile unit, the **Scorpion** doing the drilling.

Operator had reached 9492 ft. when the drill string was lost. The hole was then plugged back to 6000 ft., and drilling operations have since arrived at about 7000 ft.

California

Giant Repressuring Project Aimed at Wilmington Declines

A West Coast group will launch a $23.5 million program to repressure a substantial portion of California's Wilmington oil fields.

The "crash" program, which will begin immediately, is designed to halt pressure decline in the field and to restore original reservoir pressures within five years. It is hoped also that subsidence will be arrested.

During the first five years, a total of 710 million barrels of water will be injected at a rate of 390,000 bbls. per day. The program calls for the ultilization of twelve existing water injection wells, drilling of 40 new water injection wells and conversion of 44 producing oil wells into water injection wells.

Principals involved are Union Pacific Railroad Company, Southern California Edison Company, General Petroleum Corporation, the Long Beach Oil Development Company and the Long Beach Board of Harbor Commissioners.

Wilmington Suit Demands Repressure or Shut Down

The Justice Department on behalf of the United States Navy has filed a suit in a Los Angeles federal court asking that operators in the big Wilmington field be forced to halt subsidence around a naval base or shut down production.

The suit asks that either a suitable repressuring program be instigated within the next 60 days or production in the 90,000 bbl. per day field be halted. Otherwise the government is requesting $200 million in damages which it alleges would be the cost of replacing its installations along the Long Beach waterfront area.

The Government claims that subsidence in the shipyard area ranges from two to twenty-two ft., and when it reaches 23 ft. the yard will be unusable. It says that subsidence in some areas now amounts to more than a ft. per year and workers forced to carry out their duties behind dikes installed by the Navy are in danger.

The Government charged that operators have not taken steps to halt the subsidence quickly enough, and expressed doubt that a law passed by the California legislature recently is sufficient.

Named as defendants, along with the cities of Long Beach and Los Angeles and the State of California, were 395 operators and former operators in the field which was initially opened in 1932.

An official of Richfield Oil Corporation said he believed repressuring was the answer rather than shutting in the field, and if the suit speeded up repressuring, it would serve a good purpose.

Repressuring programs had already been planned for Blocks 2 and 3, and a 170,000 bbl. per day water flooding project has been launched by Long Beach Oil Development Company.

Engineers have recommended a repressuring schedule utilizing a million bbls. of water per day.

Coring Operations Centered Around New Marine Leases

Core drilling operations on the West Coast are concentrated in the tidelands off Santa Barbara where four offshore parcels were leased recently to the highest bidders.

However, a fifth block which drew the lowest bid—$770,837 by Standard Oil Company of California and Humble Oil and Refining Company—has been held up while the State Lands Commission reviewed its geology.

The five 3840-acre tracts brought a record bonus offering of $55.5. Blocks are two mi. wide and run seaward for a distance of three mi. with four-mi. gap between.

Drilling on two of the parcels may be carried on from piers, but two

(Continued on page 32)

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550-ton capacity

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350-ton capacity

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OIL BARGES

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65 footers

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News . . .

(Continued from page 30)

others must be developed from platforms or drilling islands.

Among the core drilling vessels operating in the vicinity of the new leases, the CUSS I is the most prominent. The 260-ft. by 48-ft. vessel recently drilled eight core holes to an average depth of 3530 ft., averaging only 6.6 days to the hole. The barge is equipped with a 98-ft. derrick and utilizes 4.5-in. and larger drill pipe.

Altogether, the nine barges which have been active on the West Coast during the past three years have drilled about 450 test holes.

Redrilling Brings Boom Again To Early Offshore Lease

Back in the early 1930's, one of California's first offshore fields was opened by wells drilled from piers built out over Ventura County tidelands.

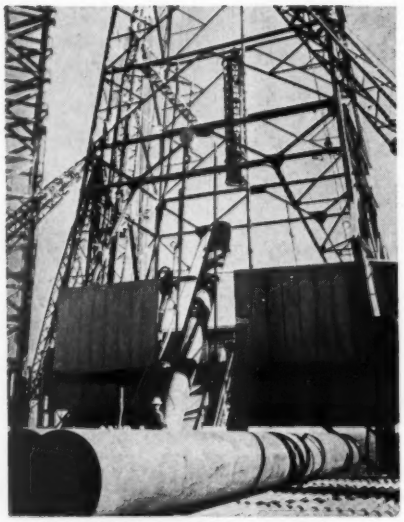
Afterward, production from that seaward extremity of the old Rincon fields gradually declined to less than 500 bbls. per day. A year ago, however, General Petroleum Corporation, operator on the 148-acre lease, lanuched a revival program.

With five wells redrilled and three new ones producing, production has leaped to 1800 bbls. per day. Locations for five new wells have been made. Another company with 80 acres nearby, Honolulu Oil Corporation, has plans for seven wells to be drilled from a platform on pilings.

A short distance away, Richfield Oil Corporation is preparing to drill its first well from an artificial island. It is beileved that the Rincon field may extend out beneath Richfield's lease also.

General Petroleum has been spending an average of $100,000 to complete each well with new production coming from the Miley Zone at a depth of 2950 ft. to 4000 ft.

DRIVING CONDUCTOR PIPE - - ?
PIPE PILES - - ?



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Marine Cable Conveys Power For Socal's Fixed Platform

All equipment will be electrically powered on California's first stationary steel platform off Summerland with power coming from shore through a huge cable.

Okonite Company, North Brunswick, N.J., manufactured the 3-in. wire line and sheathed it in polyethene. The cable has a maximum voltage capacity of 16,500 and can carry 3500 KVA or 4500 hp.

From the shore it extends 1.5 mi. out to the platform located in 100 ft. of water on the 5500-acre Standard-Humble lease.

Superior Court Invalidates Lease in Los Angeles Harbor

A California court recently invalidated a ten-sq. mi. marine lease in the outer harbor at Los Angeles.

Right to the tidelands which were leased to the Los Angeles Harbor Development Corporation by the city, was contested in a taxpayers suit. The superior court judge ruled that proper judgment was not used in awarding the concession.

Dallas Firm Pays $10 Million For 100 Wells at Long Beach

A Dallas, Texas, oil company has made its first entry on the West Coast with the purchase of about 100 wells in the Wilmington oil field of Long Beach, Calif.

Producing Properties, Inc. gave $10 million cash and other considerations for about 17 million bbls. of reserves in the field.

The wells are currently producing about 2500 bbls. of oil per day, but Producing Properties hopes to increase that to 10,000 bbls. through waterflooding.

Dutch Guiana

Colmar Farms Out Interest In Offshore-Onshore Lease

Colmar Surinan Oil Company, Ltd. has farmed out an 80 percent interest in its Dutch Guiana concession to Gulf States Land and Industries, Inc., a subsidiary of Webb and Knapp, Inc.

Colmar's 40-year lease takes in 14 million acres, offshore and onshore.

Florida

Drilling on Huge Marine Lease Awaiting Tidelands Decision

Drilling will get underway off Florida if the Supreme Court hands down a decision in the Tidelands Case by the middle of next year.

The California Company plans to exercise its option to drill a total of 21,000 ft. of hole on a 4.5 million acre lease held by Coastal Petroleum Company, a subsidiary of Coastal Caribbean Oils, Inc.

Although the agreement calls for Calco to drill a total of 81,000 ft. of hole by 1966, the initial 21,000 ft. must be completed by March 27, 1961.

The California Company has been conducting geological and geophysical work in the area since entering into a contract with Coastal Petroleum in 1955.

A 50 percent undivided interest in the acreage may be secured by Calco after it invests $10 million in exploration and development work. If oil is discovered, Calco will obtain a 50 percent interest on 100,000 acres surrounding the discovery with operating costs shared equally by the two companies.

Included in the leases are submerged areas off the west coast of Florida and inland waters such as Lake Okeechobee.

If the Supreme Court delays the Tidelands Case too long, or if the decision goes against Florida, Calco's commitment may be abandoned or drastically altered.

Industry Item

Penrod Moves Headquarters From Shreveport to Dallas

Penrod Drilling Company, which operates ten marine drilling rigs, has transferred its headquarters from Shreveport, La., to Dallas, Tex.

The company branch office in Houma, La., will be maintained to

(Continued on next page)

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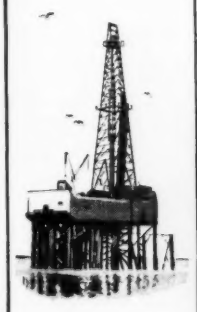

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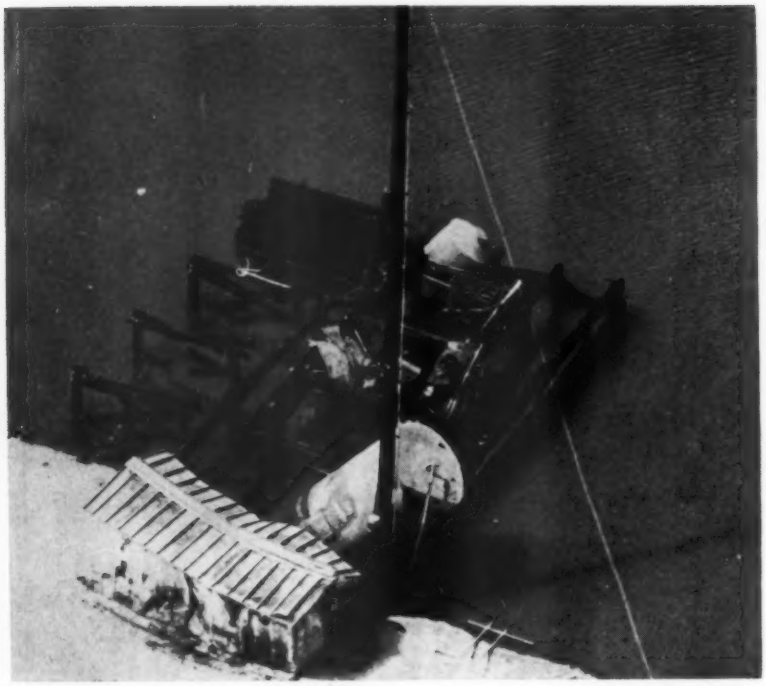
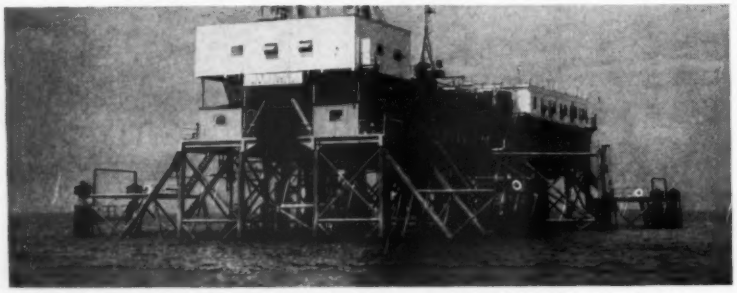


Fire, which broke out when a natural gas generator exploded, severely damaged living quarters of a Phillips Petroleum Company production facility located a mile from their Bay Marchand offshore wells near Leeville, La. Two men suffered burns, and damage was in excess of $15,000, but nearby production facilities were undamaged and the wells are still producing.

Housekeepers Aboard the ST. LOUIS



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News . . .
(Continued from prèceding page)

handle drilling operations in the Gulf of Mexico and South Louisiana. Penrod is one of the nation's largest oil drilling contractors, with 28 rigs in all.

Gulf of Mexico

Gulf Interstate Asks Permit For 12-in Undersea Gas Line

Gulf Interstate Gas Company, Houston, plans to lay a 12-in. gas pipeline in the Gulf of Mexico off Cameron Parish, La.

According to a permit filed with the Department of Army Engineers, the line will extend from an onshore site to a point 19.5 mi. southwest of Pecan Island, La. It will be buried at least three ft. beneath the ocean bed.

Lafayette Oil Center to Get $25 Million in New Buildings

Addition of about 20 new office buildings has been planned for the oil center at Lafayette, La.

Work was expected to begin this month on the project which will be completed in two to five years at an estimated cost of $25 million.

In addition to office structures for oil firms, the expanded center will include a medical center, a civic center, a style center and a shopping center.

Marine Gas Fields to Bolster Trunkline Expansion Program

Two more offshore gas fields of Louisiana will soon go on production to bolster Trunkline Gas Company's north bound shipments.

Trunkline recently asked the Federal Power Commission to approve an $81.5 million pipeline expansion project.

Part of its new shipments will be drawn from West Cameron Block 67 fields and Vermilion Block 26 fields, with Trunkline paying 22 cents per mcf for the gas in the beginning.

From the two offshore fields and an offshore field the firm would be able to assure itself of reserves in excess of a trillion cubic ft. It hopes to increase its shipments to Michigan to 200 million cubic ft. daily after 1960. Contract requires it to pay 75 percent of the gathering taxes.

Vermilion Block 26 is where Union Oil Company of California suffered a disastrous blowout in 1956 that destroyed drilling rig and

(Continued on page 39)

great

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Although CP-Harrisburg will market both Chicago Pneumatic and Harrisburg products, it is not a subsidiary of either company but will operate independently. The primary aim of the new company will be to provide greatly accelerated service and distribution of Chicago Pneumatic and Harrisburg products through authorized oil field supply companies.

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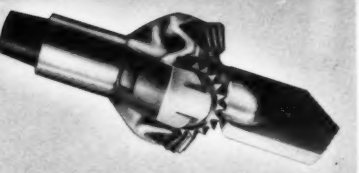

REAMERS

URG

ROCK BITS

PUMP LINERS

VALVES

PISTONS

News . . .

(Continued from page 34)

platform. The escaping gas caught fire and burned for more than five months before it was killed by a directional hole drilled from another platform.

Union owns Block 26 jointly with Pan American Petroleum Corporation, but is the sole owner in West Cameron Block 67 where there is presently one well with plans for others.

Marine Operators Get Hope From Sept. Allowable Hikes

Oil allowables for September were raised a little more in the gradual ascent toward recovery.

In Texas the Railroad Commission granted a twelve-day producing month which means an additional 196,525 bbls. production daily.

Louisiana will be permitted an increase of 21,000 bbls. daily, giving it a daily production of 776,000 bbls.

The Texas producing schedule is the highest since last February when the Railroad Commission started chopping allowables to remedy over supplies.

The hikes are still little more than a promise to major producers in offshore areas which felt the brunt of allowable cuts.

One of the largest operators in the Gulf of Mexico, Humble Oil and Refining Company of Houston, said it needed to produce its wells fourteen days a month to meet its oil requirements. Magnolia Petroleum Company, Dallas, reported that it needed to raise its crude supplies 900,000 bbls.

Longest Undersea Gas Line Now Moves 100 Million CFGD

Longest undersea gas gathering system in the world is now delivering about 100 million cubic ft. of gas per day from eight production platforms in the Gulf of Mexico.

Operated by Tennessee Gas Transmission Company, Houston, the line, called the Cameron gas system, taps CATC leases in the East Cameron area.

The 62-mi. marine pipeline was recently completed by the L. E. Minor, Brown and Root's new giant pipe laying barge.

Platform for 130-Ft. Water Launched by Universal Drilling

A new offshore mobile unit that can drill in waters up to 130 ft. deep has been launched by Universal

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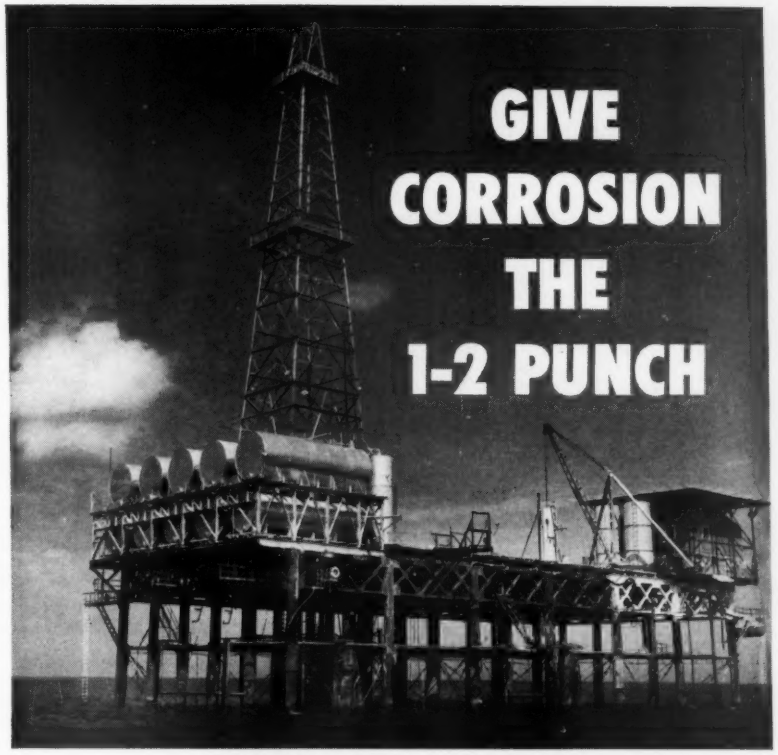

CARBOMASTIC-PHENOLINE Protective Coating System for Offshore Drilling Equipment

Here's a super-tough, easy-to-apply coating system — Carbomastic #3 and Phenoline 305 — for long-lasting protection of rigs, barges, tenders and other marine equipment. It's a service-proven, double-barreled safeguard against:

CORROSION — protects against the corrosive effects of salt water, marine atmosphere and chemicals

IMPACT and ABRASION — coating resists damage during fabrication and under rough treatment of dropped tools, pipe and other heavy objects

HAZARDOUS FOOTING — provides a non-skid walking surface.

The following Carbomastic-Phenoline combinations are recommended for areas exposed to varying degrees of corrosion:

JACKET SECTION — one coat of Carbomastic and two coats of Phenoline in the splash zone. Carbomastic for resistance to marine atmosphere, Phenoline for resistance to impact, abrasion and chemicals

DECK SECTION — for deck section of platforms: one coat of Phenoline Primer and one coat of Phenoline Finish

BARGE EXTERIORS — for hulls, rakes, bottoms, etc.: one coat of Carbomastic and two coats of Phenoline for protection against marine atmosphere, impact, abrasion and chemicals

NON-SKID COATING — for hazardous walking areas on steel decks: one coat Phenoline Primer and one coat Phenoline Finish with Special Silica Filler

BARGE INTERIORS — one or two coats of Carbomastic, for protection against condensation and sweating.

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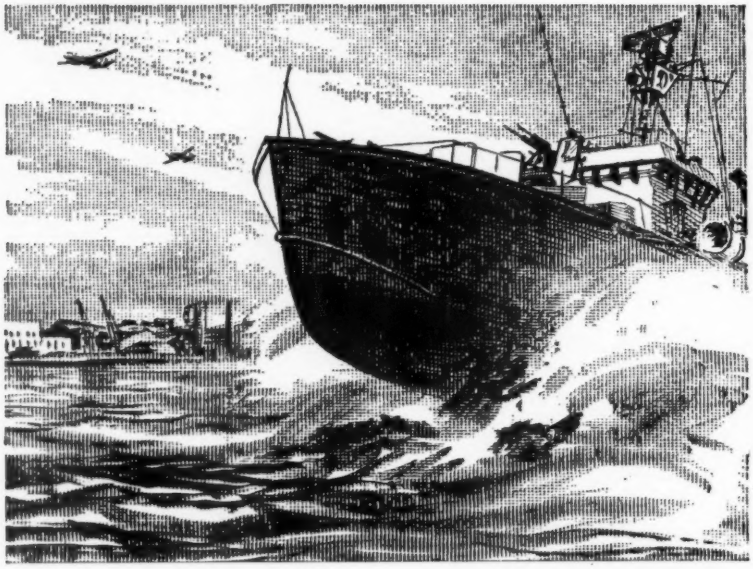

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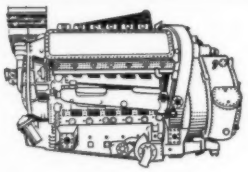

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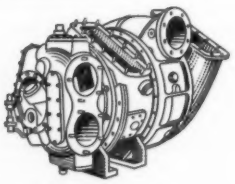
engine for merchant ships. Powers fast patrol boats and mine-sweepers of many Navies, police and passenger launches and the world's most powerful diesel electric locomotive. Deltic Diesel Engines are designed for power outputs from 825 to 3,100 h.p.



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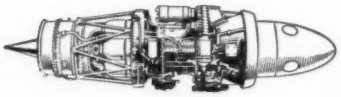

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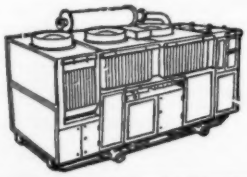

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(Continued from preceding page)

Drilling Company, New Orleans.

Built by Port Houston Iron Works, the self elevating drilling barge will be christened **Mr. Louie.**

The unit, which is equipped with twelve legs, measures 204 ft. by 133 ft. by 17 ft. and accommodates up to 40 men.

Persian Gulf

Aramco's New Mobile Unit Gets Maiden Test Underway

A new tripod type platform has spudded its first well in the Persian Gulf field which was opened recently by Arabian American Oil Company's Manifa No. 1 wildcat.

The small triangular mobile unit was scheduled to spud Manifa No. 1 in early August after being outfitted at Ras Tanura terminal following a 10,000-mi., six-week tow from the marine yards of R. G. LeTourneau, Inc., Vicksburg, Miss.

Named **Mobile Drilling Platform No. 1,** the unit will be used in conjunction with Aramco's large drilling tender the **Queen Mary.** The new unit is 104 ft. long and 93 ft. wide and weighs about 800 tons without drilling equipment.

Since its spud legs are 108 ft. long and it must be elevated only ten ft. above the water surface during drilling operations, the unit can drill in water depths up to 65 ft. In addition it has drilling power that enables it to drill to 13,000 ft.

Aramco's initial Manifa test was completed in the Yamama formation, a new zone for the Persian Gulf.

New Guinea

Major Companies Discouraged By Slim Pickings in New Guinea

Royal Dutch-Shell, holder of 40 percent interest in Netherlands New Guinea Petroleum Company, has given notice that it plans to pull out if no outstanding results are forthcoming within the next few years.

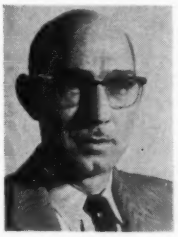
Other members of the group are Standard-Vacuum Oil Company, also with 40 percent, and Caltex with 20 percent. Although $110 million has been sunk in exploration on the island, only three small oil fields have been opened, and their production is declining.

In Papua on the Australian side, British Petroleum Company and Stanvac have declared they will spend no more money in a venture that has cost $67 million without commercial oil being discovered.

INDUSTRY ITEMS . . . . . In the News

Shell Makes Appointments At Houston and Morgan City

W. L. Brady has been named terminal supervisor of Shell Oil Company's new Morgan City warehouse and terminal.



Brady

The new terminal was scheduled to begin operations in August and will serve the company's Lafayette, Donaldsonville and Marine production divisions, as well as other major departments operating in the Morgan City area.

Brady began his career with Shell during 1941 as a roustabout in Illinois.

At Houston, Dr. R. D. Miller has been appointed manager of the new technical information services department of Shell Development Company's Exploration and Production Research Division and Shell Oil Company's Technical Services Division.

S. L. Pease will be manager of the training department, and D. E. Broussard will be manager of the service engineering department.

Zapata Names Nolan Stewart Assistant to Vice President

Nolan Stewart has joined Zapata Off-Shore Company as assistant to the vice president, Wayne H. Dean, vice president and manager of operations has announced.

Stewart graduated from the United States Merchant Marine Academy in 1945 with a degree in marine engineering. After graduation, he served five years in the U. S. Merchant Marine where he obtained his chief engineers license.

In 1952, he joined Brown & Root Marine Operators as marine superintendent.

Creole Grants BFA $41,000 For TV in Venezuelan Schools

A grant of $41,000 to help Venezuela establish educational television in its school system has been made to the Broadcasting Foundation of America.

The grant was presented by the Creole Foundation, a non-profit organization set up by the Creole Petroleum Corporation, a U.S. company and Venezuela's largest oil producer. It will be used to establish training programs in the U.S. for members of Venezuela's National Commission for Educational TV and for a continuation of the technical advisory services initiated by BFA in February.

The $41,000 grant is an outgrowth of a $30,000 grant made in 1957 for a study of the possible use of television and radio in education in Venezuela.

AOSC Names James Danheim New Executive-Secretary

James E. Danheim, attorney of Austin, Texas, has been named the new executive-secretary of the Association of Oilwell Servicing Contractors, J. F. McAdams, Hobbs, New Mexico, president of the association, has announced.

Danheim

Danheim takes over the direction of the organization, which has its home office in Odessa, Texas, on July 15. Danheim assumes the position formerly held by W. H. (Woody) Fox, who resigned recently.

The oilwell servicing association was founded in Odessa in 1956 and now has more than 200 members with 15 chapters in seven southwestern oil producing states.

Houston Workshop Attended By Harris County Teachers

Thirty science and mathematics teachers from Harris County schools recently attended a petroleum workshop at the University of Houston sponsored by a like number of oil firms.

Purpose of the program, which included field trips to refineries, chemical plants and other oil industry facilities, was to demonstrate to the teachers just how the fundamental principles they teach in the classroom are applied in industry. The workshop program was the first of its type in the country.

Faculty for the workshop was composed entirely of representatives from the oil and allied industries, with some 32 lecturers speaking during the three-week session.

Former Sinclair President Elected to 2 Top Positions

P. C. Spencer, president of Sinclair Oil Corporation since 1949, has been elected chairman of the board and chairman of the executive committee.

Succeeding Spencer as president is E. L. Steiniger, formerly executive vice president-operations.

Spencer, who will continue as Sinclair's chief executive officer, joined the company in 1934 in the legal department. In 1954-55 he served as chairman of the board of directors of the American Petroleum Institute. At the present time, he is API treasurer.

Steiniger joined Sinclair in 1925 eventually moving to Venezuela where he served for about 25 years.

(Continued on next page)

New home office building of Pipe Line Technologists, Inc., Houston, features three glass walls. Solar screen constructed of clay conduit across the front of the 15,000 sq. ft. building, 43 ft. by 143 ft., is duplicated at the rear. This screen, extensively used in Latin America, is one of the first used on a building in the United States.

Industry Items . . .

(Continued from preceding page)

In 1950 he became president of Sinclair Venezuelan Oil Company, and in 1955 he was named vice president in charge of foreign operations for the parent company.

API Completes Membership Of Public Affairs Committee

Membership of the new Committee on Public Affairs has been completed with the appointment of four division vice presidents of the American Petroleum Institute as ex-officio members.

New appointees are D. L. Connelly, Warren Petroleum Corporation, Houston, (API vice president for production); H. W. Ferguson, Humble Oil & Refining Company, Houston, (API vice president for refining); D. T. Colley, The Atlantic Refining Co., Philadelphia, (API vice president for marketing); and C. E. Spahr, The Standard Oil Company, (Ohio), Cleveland, (vice president for transportation).

The new committee was expected to take over activities of the American Petroleum Industries Committee and the Oil Information Committee by September 1.

API Committee Prints Free Productivity Indices Bulletin

A bulletin on "Recommended Practice for Determining Productivity Indices" has been published by the Central Committee on Drilling and Production Practice of the API Division of Production.

Such subjects as surface equipment and production rate are covered, with recommended procedure. Copies are available without charge from the API Division of Production, 300 Corrigan Tower Bldg., Dallas 1, Texas.

Two Major Oil Firms Give Large Grants to Education

Two of the offshore oil industry's largest operators have announced major grants to higher education.

Continental Oil Company, Houston, has launched its second annual financial aid to education program for the 1958-59 academic year. About $200,000 will be donated in the form of grants and fellowships for scientific and business research and scholarships for outstanding college students.

President L. F. McCollum said, "Conoco will renew grants to 15 colleges and educational institutions, award new grants to two colleges, and renew sponsorship of $2500 fellowships for basic research at 17 schools."

In addition, the company will renew awards of $500 scholarships to outstanding upper classmen at 25 colleges.

A total of $36,700 in collateral grants to U. S. colleges and universities has been announced in a joint statement by the Creole Petroleum Corporation, New York, one of the largest oil producers in Lake Maracaibo, and the Creole Foundation.

Geology Consultant Speaks At Houston D & D Meeting

Dr. M. King Hubbert, chief consultant in general geology for Shell Development Company, spoke to the Desk and Derrick Club of Houston recently on "The Mineral Resources in Texas."

Prior to joining Shell in 1943 as a research geophysicist, Dr. Hubbert taught geology and geophysics at Columbia University, worked with the U. S. Geological Surveys in Illinois, and had a tour of duty with the Board of Economic Warfare.

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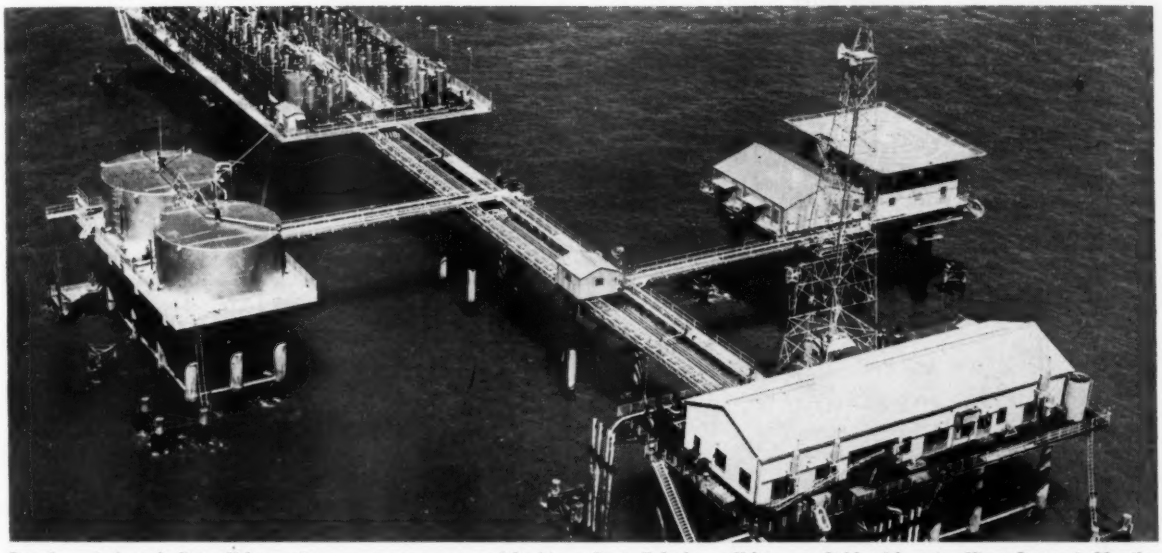
COMMUNICATIONS

What's New In Offshore Communications?



Petroleum industry's first offshore microwave system was used by Magnolia to link three offshore gas fields with main offices. System is 80 miles long with 55 miles of overwater transmission, and has a 30 channel capacity. Offshore pipelines may be next transmission method.

- **One company is using the pipeline itself to open and close valves etc. . . .**
- **New ruggidized equipment is making radio more dependable than ever . . .**
- **As the radio spectrum grows more crowded, scientists are learning to transmit over ever narrowing bands . . .**
- **Automation and remote operations are growing . . .**

By Bill Payne
Special Correspondent

THE progress in electronics has outstripped the wildest dreams of the science fiction writers of twenty years ago. Without many of these advances—some of which are almost unbelievable today—the offshore oil industry, simply wouldn't be possible. On the other hand, this very industry has been responsible for a number of the advances—particularily in the realm of increasing the utilization of the radio spectrum; or in other words, cramming more communications channels into

(Continued on next page)

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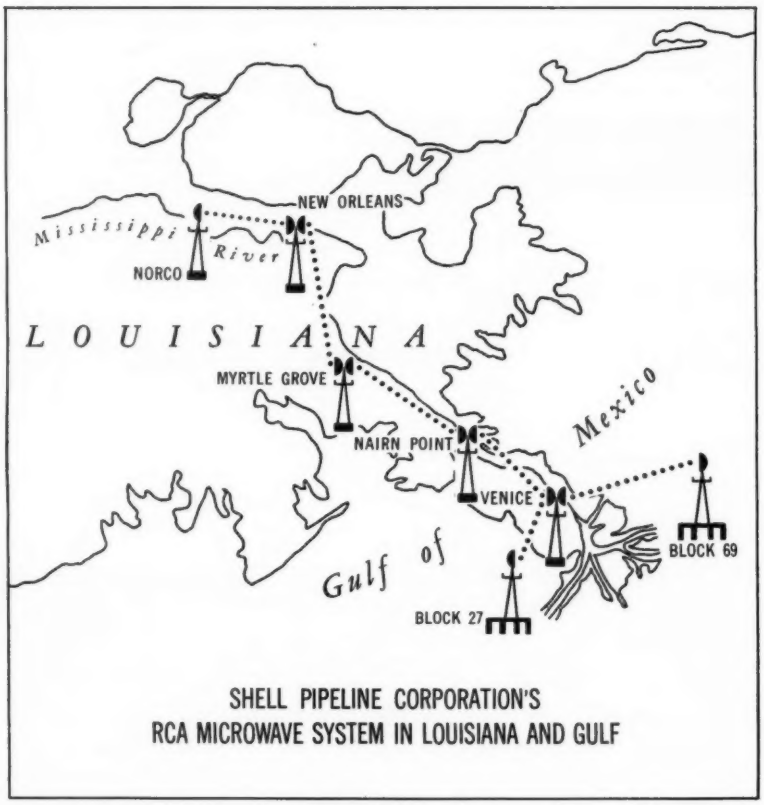

New microwave system ordered by Shell will link headquarters at Norco, Louisiana, with two drilling areas in the Gulf. System provides voice, teleprinter and supervisory channels.

Communications . . .

(Continued from preceding page)

less space without interference.

Pipeline Signals . . . But the most exciting development for offshore operators today is the experimental project which utilizes the pipeline itself for signal communications. One company (which prefers to remain nameless for the time being) has been able to open and close valves etc., on platforms at sea by pulsing the cathodic protection system! This is perhaps the most obvious solution to the problem of remote operations ever devised, and it probably makes you wonder why you didn't think of it yourself. After all, sea water is an excellent conductor, and any cathodic protection system must maintain a current flowing from the water toward the pipe in order to prevent corrosion. This current—usually in the range of a volt or so at the points fartherest from the source—can be pulsed and there are any number of control systems that can convert combinations of pulses into specific actions. (As a matter of fact, that's the principal of the dial phone.)

Voice Communication . . . Radio and other forms of electronic communications have progressed so rapidly in the past twenty years that it strains one's credulity. Just keeping up with the names of new systems, improvements to existing systems and equipment is a full time job. A few years ago "short wave" was the coming thing in radio. Now it's archaic terminology. It has been replaced with much more specific words or initials, such as VHF (very high frequency), UHF (ultra high frequency) and now super high frequency (SHF?). By the time an oil operator learns what kind of system he's paying thousands of dollars to have installed and correct set of initials, the system is obsolete.

Frequency assignment . . . Shortly after World War II the Federal Communications Commission (FCC) split up the then available radio frequency spectrum into several segments (bands) and assigned them to industry, television, public communication systems, and experimental use. Subsequent developments have shown the FCC had the right idea, but they were guilty of sending a baby boy to do a big man's job. The band assigned for use by the petroleum industry has been overcrowded almost from the first day.

Radio was ideally suited to use in

the oil industry because its relatively small size made it easily portable and allowed quick, sure contact with remote locations. This was especially true in the case of offshore and inshore oil operations. Channels soon became so crowded in southern Louisiana inshore and offshore locations that they overlapped each other, causing considerable interference.

This explains why most radio communication development has been directed toward either opening new channels for use, or compressing the band-width needed for operation in older frequencies.

High frequency . . . The opening of new frequency spectrums had to await development of necessary equipment and techniques. In this manner UHF (300-3000 megacycles) was added above the VHF band (30-300 megacycles). More recently better equipment has made it practical to open the super high frequency range (3000-30,000 megacycles).

There are definite limitations to further development in this direction. Range is restricted in the higher frequency bands. Signals take on more of the characteristics of visible light. They will not pass through or around solid objects. They are easily reflected by objects to one side of the straight line path from transmitter to receiver, which results in interference. And as wavelengths become very short they tend to get in their own way within the transmitter and/or receiver.

Current practice in mobile offshore operations is to use either VHF or UHF for voice communication, with fixed marine stations employing medium frequency (2-3 megacycles) for standby and emergency service. These fixed stations are the regular coastal marine radio systems.

Voice, signal, etc. . . . Microwave systems have been installed by several operators at fixed coastal stations. These systems have a broad band and can handle a large number of voice communictions simultaneously, as well as telemetering and remote control functions. Shell, Magnolia, Pure Oil, Atlantic Pipe Line and Union Oil of California all have microwave installations in operation.

"Sideband" . . . Research is continuing in the attempt to make field communications smaller and more dependable under adverse operating conditions, and in trying to squeeze more channels within the same

(Continued on Page 58)

GULFPORT BUILT . . .

Tug ZEUS, 103' x 25' x 13'— 1200 HP General Motors Diesel Gear Drive tug, built for Intracoastal Towing and Transportation Corp., Houston, Texas. Delivered August 13, 1957.

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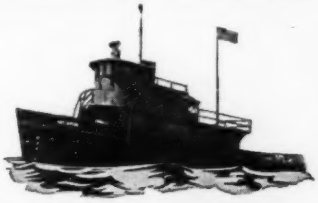

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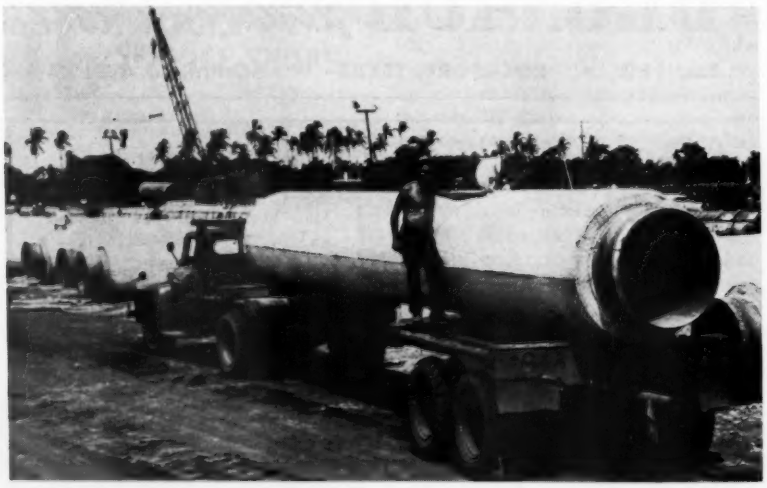
Brown & Root lay barge M-211 making up the "Super Inch"—40-in. pipeline being laid in Lake Maracaibo, Venezuela as part of an underwater gathering system for the Creole Petroleum Corporation.

Brown & Root barge lays the . . .

Super Inch

Underwater pipelining is not a simple job under ideal conditions. Special skills and equipment are necessary—all of it expensive. Costs rise rapidly as the size of the pipe increases. This makes the job currently being tackled by Brown & Root's lay barge **M-211**—laying nearly 14 miles of 40-in. line on the bottom of Lake Maracaibo, Venezuela—one of the toughest ever attempted.



Size and weight of the "Super Inch" is shown in this picture at Brown & Root's pipe coating plant. Each 40-ft. joint weighs approximately 20 tons.

Contracted for Creole Petroleum Corporation of Venezuela, the 40-in. "Super Inch" is part of a gathering system connecting several of the firm's big gas producers with their new Tia Juana Conservation Plant No. 3. Also included in the system will be 43,400 ft. of 30-in. line and 10,153 ft. of 16-in. line.

Weighting the line to keep it submerged required a six inch coating of reinforced concrete. A special coating yard was built on the shore of Lake Maracaibo to do the job, which took over a million pounds of steel mesh reinforcing and more than 23,000 cubic yards of concrete. Overall diameter of the pipe, after coating was applied, was 52-in. Each 40-ft. section weighed nearly 20 tons.

Getting the ponderous line from barge level to lake bottom 70 feet below, without cracking the coating, presented quite a problem also. It was solved by the use of a 710-ft. boom or "stinger" attached to the barge. Large pontoons on the stinger supported the line midway between the **M-211** and lake bottom.

The **M-211** is one of the largest pipe laying barges ever built. She has five 40-ton davits mounted on her sloping work deck, which allows crew members to handle the massive sections of the "Super Inch" with ease.

Basic California submarine line sea terminal has five mooring buoys in addition to the ships anchors. This system is readily adaptable to offshore producing fields too far from land for economical pipeline connections.

Offshore producers may utilize . . .

Deep Sea Terminals

As offshore oil operations move further out to sea, oil transportation costs rise sharply. An economic solution may be underwater storage tanks and deep sea terminals.

FOR over a quarter century the marine oil transportation industry has known and made use of the offshore tanker facility called a sea or submarine-line terminal. Up until now it has been defined as a means to transfer oil through underwater pipelines between shore-storage and a tanker anchored offshore.

But that definition may soon be broadened to include the transfer of oil from offshore-storage to tankers.

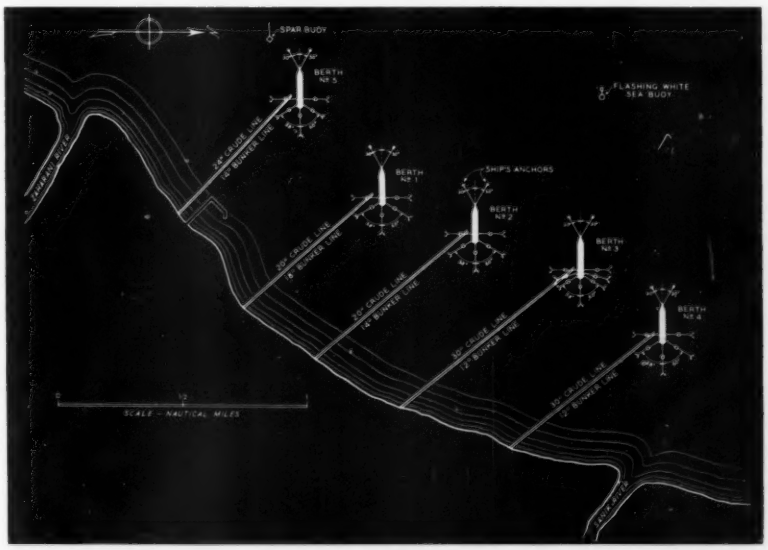
Existing sea terminals consist of several anchored buoys and a pipeline, or pipelines, from shore storage tanks out along the sea bottom to the area of the mooring buoys. The buoys permit an anchored tanker to be secured in a relatively immobile position with reference to the seaward end of the pipeline. A flexible hose connection between pipeline and ship's cargo system provides a means for continuous channeled flow of oil between storage tanks and ship's tanks.

A terminal may consist of a single sea berth or several.

Sea terminals have become a necessary economic link in the chain of oil transportation between producing area and refinery because of one or a combination of the following conditions. These same factors may bring about the use of deep sea terminals to handle offshore production.

These factors are:

1. Separation of producing areas and marketing areas or refinery locations by a large body of water, making sea transportation mandatory.
2. Producing areas located too far from adequate harbors.
3. Uneconomical to use long pipelines, costly pier or fixed



System of multiple loading berths at Sidon oil loading terminal south of the town of Sidon, Lebanon, shows different berthing and loading arrangements in use at one terminal.

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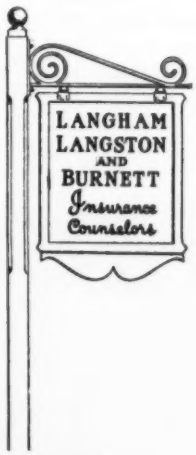

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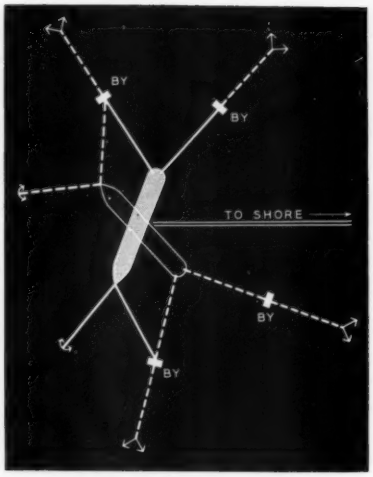


Example of an economical four buoy—two way sea berth. Here one anchor and three buoys are used to moor the vessel.

Deep Sea Terminals . . .

(Continued from preceding page)

berthing construction.

4. Greater economic efficiency of this type facility due to its relatively low installation, operating and maintenance costs compared to any other type of marine loading facility similarly located.
5. Greater seaworthiness of this type of terminal during adverse weather conditions compared to that of any pier structure located on an open sea.

Development drilling is now uneconomical in offshore fields located great distances from shore. At present production from the few wells in these fields is pumped into barges then towed to shore. This necessitates the double handling of the oil, and added expense of barges and tugs. This system is also very susceptible to adverse weather conditions. During bad weather barges must be removed from the platforms and wells shut-in.

This creates additional expense and often results in lost quotas due to inability to produce during a part of the month.

As the distance from shore increases the economics of pipeline construction becomes less feasible. In many offshore oil fields it may be years before production reaches a rate that will make a pipeline economical.

Deep sea terminals coupled with underwater storage *(see August OFFSHORE page 41)* or floating storage *(see page 72)* may prove to be the economical solution to this pressing offshore problem.

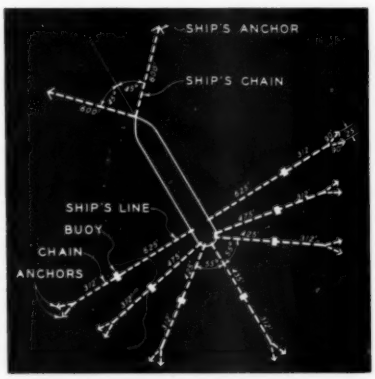
Terminal design . . . Present sea terminals generally lie within 6000 ft. of shore, though as the size of tankers increases, terminals are moving further from shore into deeper water. Super tankers require at least 60 ft. waters for sea terminal berthing.

Dimensions of sea-berth areas will differ with their buoy layouts and the size of vessels for which they are designed. An average five-buoy T-2 vessel berth would have a length of 2160 ft. from anchorage marker-buoy to stern-buoy anchor location, and a width of 1520 ft. between breast-buoy anchors. Similar dimensions of a large super-tanker berth are 2710 ft. long and 1795 ft. wide.

There is a difference of opinion among sea terminal operators with respect to the number of mooring buoys required at a sea-berth. Thus, different terminals vary in this respect. They range from two to seven buoys, the number being determined by the size of vessels the terminal is designed for; the local weather, sea, current and bottom conditions, and economic considerations.

In terminals in protected areas, such as sections of the Persian Gulf or Lake Maracaibo, as few as two-buoy berths may be used, while in the rougher sections of the Gulf of Mexico as many as seven buoys may be needed to secure the tanker.

Terminal pipelines . . . Pipelines between storage and terminal may be brought out to either side of the centerline of the berth, so as to allow connections on the port or starboard sides of the vessel. At a North Lebanon terminal where two-direction moorings are installed, connection may be made on either side of the vessel, depending upon which direction she is headed when moored. Pipelines vary in size from 4-in. to 30-in. lines. The throughput and flow rates desired will determine the number and size of the lines.



Mooring arrangement for super tankers may take as many as seven buoys and ships anchors to insure secure berthing.

Terminal hose . . . Submarine-hose sizes, as in the case of the pipelines, are based on flow rate requirements. Sea terminals where line sizes are over 12 in. usually use two 12 in. submarine hoses. Heavier hoses require sturdier lifting equipment aboard the tankers than most of them are fitted with. Ship's equipment must be able to safely lift at least 3-ton loads where 12-in. hose is used.

Mooring components . . . The buoy components of a sea-berth are the mooring buoys, the pipeline, hose and anchorage marker buoys. Supplementing these are their anchors, anchor chains and the mooring buoy hooks.

Mooring buoys are usually large cylindrical cans. A heavy steel stay passes through the buoy. The mooring hook is secured at the top end and the anchor chain at the underwater end. It provides the medium for transferring the tension of the ship's lines on the buoy-hook to the mooring chain and anchor.

A pipeline marker-buoy is usually a steel spar with about 12 ft. projecting above the surface. A concrete block anchors the spar at the seaward end of the pipeline.

Hose marker-buoy is attached to the ship-end of the hose by a small chain. The upper end of the manila hose-lifting bull-rope is secured to the top of it and used to hoist the subhose to the ship's deck level.

Anchorage marker-buoys are installed at the seaward end of each berth anchorage area. Temporary lights may be hung on buoys for night mooring operations, and they may be fitted with bells to facilitate entering or leaving the berths during foggy weather.

Buoy anchors . . . Mooring buoy anchors originally installed at Pacific Coast terminals designed for vessels up to 20,000 DWT, were 16,000 lb. old fashioned stock anchors, one to each buoy. At later installations 10,000 lb. and 14,000 lb. Danforth anchors were installed. In other parts of the world where weather conditions are more severe and uncertain and where bottom conditions may be questionable, two anchors are used to moor each buoy.

Anchor chain sizes do not exceed 2¾ in. at most terminals. At terminals handling vessels up to 20,000 DWT chain lengths are about 45 fathoms.

Desirability of more spring in buoy chains for larger vessels has resulted in chain lengths being increased to 60 fathoms in terminals handling these vessels.

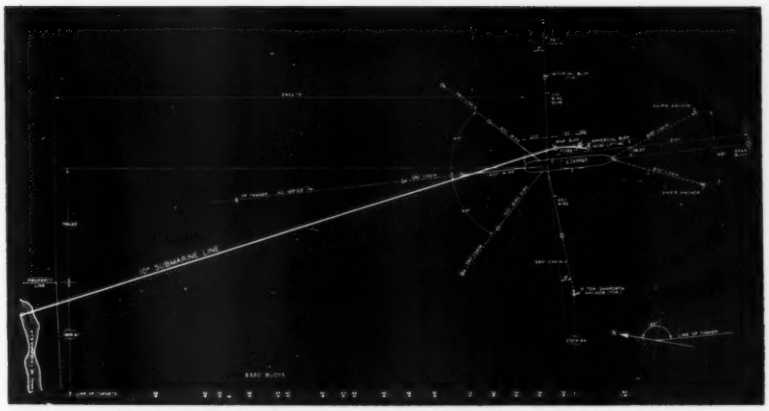
Terminal launch . . . An important item of floating marine equipment required at a sea terminal is the line-running launch. Generally, one launch must be available for each sea berth in operation. In addition to running and letting go ship's mooring lines, it is common practice for the launch to stand by the vessel during her entire time in the berth in order to be available in case of emergency.

Personnel . . . Sea terminals as described can be operated with as few as five personnel; a marine superintendent in charge of the installation; a mooring master who stays aboard the tanker throughout the operation, and assists the ship's master in maneuvering the ship into and out of the sea berth; and the line running launch manned by three men.

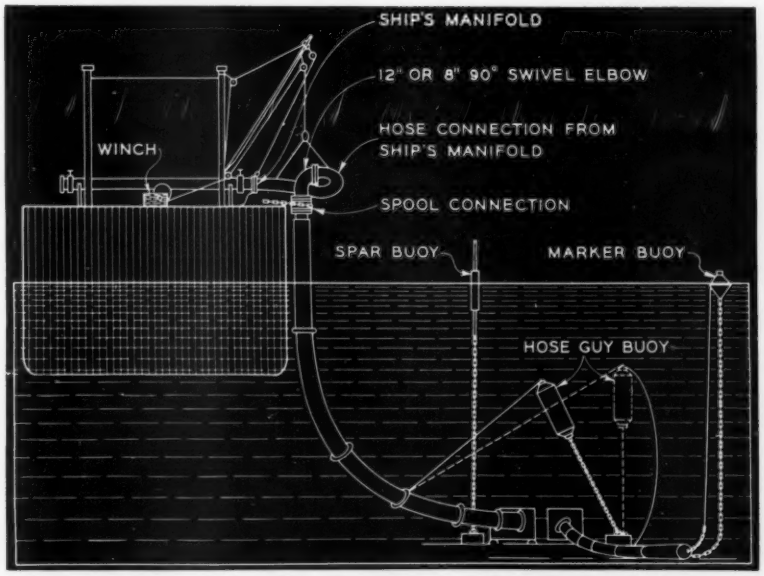
Communications can be carried on either by radio, flags or whistles.

Twenty-four hour a day operations would be possible at a deep sea terminal if production warranted such operations. But for the majority of offshore fields, it would also be possible to operate the terminal by appointment, once a day, once a week, or once a month, as required by production.

Deep sea terminals are simple in design, require a short time to install (only a few days) and would be economical to operate and maintain.



Offshore loading facilities at Puerto San Jose, Guatemala, marine terminal utilize five bouy system. Simple equipment, easily installed, make this an economical type of terminal to install and maintain.



Tankers are already equipped with simple facilities for using sea terminals. Three to five ton boom is necessary to lift three ton 12-in. terminal hose.

Parts of this article and illustrations are excerted from the paper "The Submarine Line Sea Terminal" by Ralph M. Stall, marine superintendent, California Shipping Company, Pacific Division. Paper was presented at the Annual Tanker Conference, Division of Transportation of the API at White Sulphur Springs, W. Va., June 9, 1958.

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Slotted type submersible . . .

'Leonard Glade'

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A slotted-type steel submersible drilling barge equipped to operate in remote swamp locations in a maximum water depth of 12 ft. has been completed by Levingston Shipbuilding Company, Orange, Texas.

It is the second barge for Producers Drilling Company, New Orleans, which received delivery of the **W. F. Youngblood** from Levingston about a year ago.

The new vessel was christened the **Leonard Glade** at Orange recently by Mrs. Leonard Glade in honor of her husband, secretary-treasurer of Producers Drilling Company.

Designed to drill to depths in excess of 18,000 ft., the unit is 185-ft. long, 50-ft. wide and 14-ft. deep. Slot length is 80-ft. and slot width is 10-ft.

The **Leonard Glade** is a double-deck vessel with derrick substructure and superstructure erected above the main deck for support of the derrick and drilling equipment.

Superstructure contains the reserve mud pit, pipe rack, storage rooms under the pipe rack, active mud pits and dry mud storage room.

All machinery and equipment was furnished by Mid-Continent Supply Company.

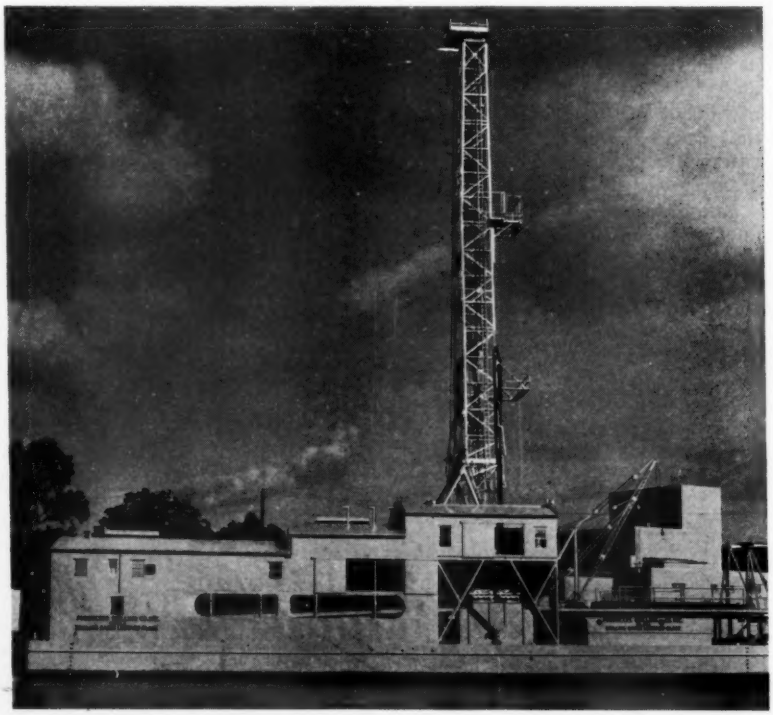
Drilling equipment . . . The **Leonard Glade** utilizes a Unit Rig U-914-B drawworks with a Unit Rig #S 27½A rotary.

Barge is equipped with a Byron Jackson Model 5350 hook, a Brewster 500-ton swivel and a Brewster 500-ton capacity traveling block.

Cameron-Hydril blowout preventer system is actuated by a Koomey Series T-4 accumulator.

Mast is a Lee C. Moore 142-ft. cantilever type rated at more than a million pounds load capacity.

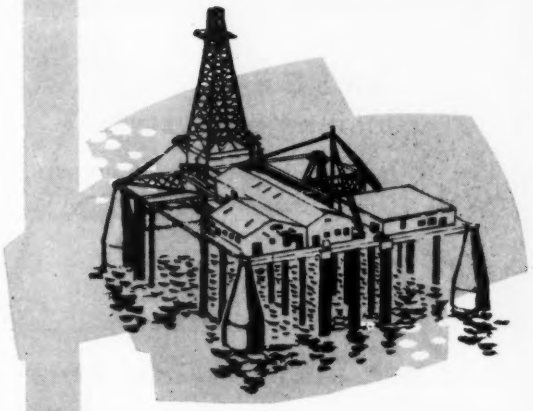
Mud system . . . An Emsco D-1000 mud pump and an Emsco D-700 with "Lightnin" heavy duty mixers make up the heart of the mud system. Shale shaker is a double Rhumba, and the D-Sander is a Demco.



Second drilling barge for Producers Company, a submersible unit equipped to operate in remote swamp locations, has been completed by Levingston Shipbuilding Company, Orange, Texas.

Mobile Units, Tenders, And Self-Contained Platforms Gulf Coast Area

OWNER	NAME	WATER DEPTH	PRESENT STATUS
Barnwell Offshore, Inc. Self-elevating 176' x 176' x 152' with three 145' legs	"Mister Cap"	To 100'	Drilling for Sinclair-Sohio, Block 153, Ship Shoal Area
Blue Water Drilling Corp. Submersible	Rig No. 1	70'	Drilling in Block 78, Vermilion Area, for Austral Oil
The California Company Submersible 11' x 90' x 156' with four 3' x 10' x 35' pontoons	S-45		Bay Marchand, La., Rowan Drilling Co., contractor
The California Company Submersible 12' x 90' x 190', with four 4' x 24' x 50' pontoons	S-55		Bay Marchand, Louisiana, Noble Drilling Company
Continental Marine Exploration Co. Submersible 230' x 99' with 54' between fixed hulls	"M & H Drilling Platform No. 12"	To 30'	Waiting on location
Coral Drilling Company Submersible 180' x 151' x 84' with four pontoons	"Mr. Arthur"	To 70'	Drilling in Block 23, S. Timbalier Area, California Company.
Deepwater Exploration Co. Self-elevating overall 121' x 118'	"Deepwater No. 2"		Completely salvaged unit at LeTourneau, Vicksburg yard
Delta Marine Drilling Co. Submersible	"Chris Zeppa"	To 35'	Stacked
Dixilyn Drilling Corp. Self-elevating 194' x 152' overall. Three 175' legs	"Julie Ann"	To 105'	Stacked Waiting on location Block 20, Timbalier Bay Area
C. G. Glasscock Drilling Co. Self-elevating. Deck 258' x 104', pad 200' x 180' with four 10' dia. columns	"Mr. Gus II"	150'	On location, Block 208, Eugene Island Area. Working for CATC Group in 96-ft. of water
Gulf Marine Drilling, Inc. Submersible	Rig No. 1	30'	Drilling La. State Lease 1483 for Gulf
Kerr-McGee Oil Ind., Inc. Submersible 13' x 54' x 160' with two 13' x 14' x 110' pontoons	Rig 40	To 20'	Waiting on Location, Eugene Island Area
Kerr-McGee Oil Ind., Inc. Submersible 134½' x 72' x 140' with two 134½' x 134½' x 140' pontoons	Rig 44	To 40'	Waiting on location
Kerr-McGee Oil Ind., Inc. Submersible 142' x 69' x 13'6", with two 10' x 11' x 146' pontoons	Rig 45	To 35'	Waiting on location
Kerr-McGee Oil Ind., Inc. Submersible	Rig 46	To 70'	Waiting on location
Kerr-McGee Oil Ind., Inc. Submersible	Rig 47	To 70'	Drilling for Phillips Petroleum Company, Block 40, West Cameron Area.
Louisiana-Delta Offshore Corp. Submersible 180' x 151' x 12'	Drill Barge Louisiana	To 65'	Working for Shell Oil Company
Louisiana-Delta Offshore Corp. Submersible 156' x 90'	Drill Barge Delta	To 25'	Working for The Texas Company—Caillou Island
Magnolia Petroleum Co. (Drill barge on piling)	Rig 52		Out of service
Marine Drilling Inc. Submersible 12' x 74' x 200' with four fixed pontoons	"101"	To 45'	Waiting on location, Timbalier area
Movible Offshore Co. Robert Macy Design 201' x 211' x 110'	"Movible No. 2"	To 80'	Drilling for John W. Mecom, West Cameron Area
Noble Barge Co. Twin-hull submersible 217' x 100'	"Lloyd Noble S-66"	To 100'	Being built at Avondale Marine Ways



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OWNER	NAME	WATER DEPTH	PRESENT STATUS
Ocean Drilling & Exploration Company Submersible 200′ x 300′ x 98′	"El Dorado"	To 70′	Drilling for CIMA, Gulf of Campeche, Mexico
Ocean Drilling & Exploration Company Submersible 132′ x 220′ x 58′	"Mr. Charlie"	40′	Under repair, Alabama Dry Dock and Shipbuilding Co., Mobile, Alabama
Ocean Drilling & Exploration Company Submersible 120′ x 180′ x 49′	"John Hayward"	30′	Drilling for self, et al. Block 9, East Cameron Area
Ocean Drilling & Exploration Company Submersible 200′ x 300′ x 93′	"Margaret"	To 60′	Drilling for Shell, Block 27, South Pass
Ocean Drilling & Exploration Company Submersible 120′ x 180′ x 50′	"St. Louis"	To 30′	Drilling for Shell, Block 27 South Pass Area
The Offshore Company Self-elevating 8½′ x 70′ x 203′ with twelve 6′ dia. caissons	Mobile Unit No. 51		Bayou Bouef Louisiana
The Offshore Company Self-elevating 13½′ x 117′ x 220′ with fourteen 6′ dia. caissons	Mobile Unit No. 52		Block 129-A, Eugene Island Area
The Offshore Company Submersible 12′ x 74′ x 200′ with four 6′ dia. caissons	Mobile Unit No. 53		Cameron Area
The Offshore Company Self-elevating 200′ x 104′ x 15′ with eight 12′ dia. towers	Mobile Unit No. 54		Block 20, S. Timbalier Area
The Offshore Company Self-elevating 200′ x 104′ x 15′ with eight 12′ dia. towers	Mobile Unit No. 55		Panama
The Offshore Company Self-elevating	Mobile Unit No. 56		Under Construction by American Bridge, Orange, Texas
Penrod Drilling Company Submersible 196′ x 108′	Rig 50	70′	Eugene Island Area
Penrod Drilling Company Submersible 150′ x 190′	Rig 51	To 70′	On location in Bay Marchand Area
Penrod Drilling Company Submersible 198′ x 174′	Rig 52	100′	Eugene Island Area
Placid Oil Co. Twin submersible hulls, each 72′ x 178′	Unnamed	To 100′	Being built by Levingston at Orange
Reading & Bates Offshore Drilling Company Self-elevating	"C. E. Thornton"	To 90′	Drilling for Gulf Oil Corporation, Block 21, South Timbalier Area
Rimrock Tidelands, Inc. Submersible	"Rimtide"	To 35′	Completed in May, 1958. Waiting on location
Sea Drilling Corp. Submersible	"Seadrill 2"	30′	Waiting on location Galveston Bay
Sea Drilling Corp. Submersible	"Seadrill 3"	30′	Waiting on location, Terrebonne Bay
Southeastern Drilling Corp. Submersible 11′ x 90′ x 156′ with four pontoons	Rig 22, Barge 8		Drilling for The Texas Company, Southwest Marsh Island
Trans-Gulf Offshore Drilling, Inc. Self-elevating	"Trans-Gulf No. 10"	75′	Christened March 7 at Adams Terminal, Houston, Texas
Union Producing Co. Submersible 160′ x 190′	Unnamed	To 76′	Under construction at Todd Shipyards Corp., Houston
Universal Drilling Company Self-elevating	"Mr. Louie"	To 130′	Under construction by Port Houston Iron Works
Zapata Off-Shore Company Self-elevating. 194′ x 152′ overall. Three 145′ legs	"Vinegaroon"	To 80′	Drilling for Standard Oil Company of Texas, Block 140-1, off Coast of Galveston, Texas
Zapata Off-Shore Company Self-elevating. 20′ x 80′ x 140′, with three triangular legs	"Scorpion"		On location Cay Sal Bank, Bahamas

Drilling Tenders

OWNER	NAME	WATER DEPTH	PRESENT STATUS
An-Son Offshore Drilling Co.	"Carl B. Anderson"		Block 27, Bay Marchand
The California Company Converted LST, 328' x 50'	S-21	22'	Bay Marchand, Louisiana, Noble Drilling Company
The California Company Converted LST, 328' x 50'	S-22	100'	Shutdown. Waiting on location Loffland Brothers
The California Company Converted LST, 328' x 50'	S-23	45'	Bay Marchand, Louisiana, Noble Drilling Co.
The California Company LST, 328' x 50'	S-24	37'	West Delta Area, Louisiana, Noble Drilling Co.
The California Company LST, 328' x 50'	S-25	39'	West Delta, Louisiana, Loffland Bros. rig
The California Company LST, 328' x 50'	S-26	23'	Main Pass, Louisiana, Loffland Bros. rig
Coastal-Marine Drilling and Construction Corp. New tender, 272' x 56'	Howard S. Cole Jr. Coastal-Mariner No. 1		Stacked
CATC Group New tender, 260' x 54'	"J. C. Craig"	50'	Drydock
CATC Group New tender, 260' x 54'	"Carle Sharp"	72'	Drydock
CATC Group New tender, 260' x 54'	"Ernie Miller"	50'	Drydock
CATC Group New tender, 260' x 54'	"Jack Cleverley"		Drydock
Deepwater Exploration Co. Converted LST, 328' x 50'	"Deepwater No. 1"		Block 174, Ship Shoal
Delta Marine Drilling Co. Converted LST, 326' x 50'	"Joseph Zeppa"	42'	Stacked
Gulf Oil Corporation New tender	"Dolphin"		Completed, placed in moth ball fleet at Orange, Tex., engines pickeled, and rig stacked
Gulf Oil Corporation Converted LST, 328' x 50'	"Eagle"	118'	Rig stacked at Morgan City, Louisiana
Gulf Oil Corporation New tender, 272' x 60'	"Pelican"	136'	Rig stacked at Morgan City, Louisiana
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-1	50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-2	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-3	60'-65'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-4	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-5	40'-50'	At Orange, Texas for storage
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-6	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-7	50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-8	60'-65'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-9	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-10	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-11	40'-50'	Standing by
Humble Oil & Refining Co. Converted LST, 328' x 50'	ST-12	45'-60'	South Timbalier Area

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OWNER	NAME	WATER DEPTH	PRESENT STATUS
Kerr-McGee Oil Ind., Inc. Converted YF, 260' x 48'	"Kermac I" Rig 16		Waiting on Location
Kerr-McGee Oil Ind., Inc. New Tender, 250' x 50'	"Kermac II" Rig 43		Waiting on location
Kerr-McGee Oil Ind., Inc. New Tender, 250' x 50'	"Kermac III" Rig 48		Waiting on location
Kerr-McGee Oil Ind., Inc. Converted YF, 260' x 48'	"Frank Phillips" Rig 39		Waiting on location
Llano Drilling Company New tender, 260' x 54'	"Clayton G. Dorn"		In Drydock Orange, Texas
Magnolia Petroleum Co. (Converted YF)	"Gulf Coast Barge No. 2"		Out of Service
MCN Group Converted YF	MDT-1		Block 66, East Cameron Area, Well A-1 drilling
MCN Group Converted YF	MDT-2		Out of Service
MCN Group Converted YF	MDT-3		Out of Service
MCN Group Converted YF	MDT-4		Out of Service
MCN Group Converted YF	MDT-5		Out of Service
MCN Group Converted YF	MDT-6		Out of Service
MCN Group Converted YF	MDT-7		Block 72, Ship Shoal Area, Well H-2; drilling
Pan American Petroleum Corp. Converted LST, 328' x 50'	"Pan American 50"		Orange, Texas
Phillips Petroleum Company Converted YF, 260' x 48'	"K. S. Adams" Rig 40	24'	Inactive
Reading & Bates Offshore Drilling Company	"J. W. Bates"	60'	Drilling for CATC, Block 123, Vermillion Area
Reading & Bates Offshore Drilling Company	"George M. Reading"	60'	Drilling for Shell Oil Co., Block 175, Eugene Island Area
Southeastern Drilling Corp. Converted YF	Rig 12, Barge 9		Shut down, Industrial Canal, New Orleans, Louisiana.
Zapata Off-Shore Company Converted YF, 260' x 48'	"Nola No. 1"	16'	At Galveston, waiting on location

Self-Contained Platforms

COMPANY	DESCRIPTION	YEAR BUILT	LOCATION	WATER DEPTH
Brewster Bartle Off-Shore Co.			Block 30, West Delta	50'
CATC Group	110' x 146'	1956	Block 40, Grand Isle	82'
CATC Group	110' x 146'	1956	Block 45, West Delta	50'
CATC Group	110' x 146'	1957	Block 47, Grand Isle	88'
CATC Group	110' x 146'	1957	Block 45, West Delta	50'
CATC Group	110' x 146'	1957	Block 48, Grand Isle	97'
Dixilyn Drilling Corp. Rig #7	120' x 145'	1956	Rig removed and in storage at Dupont's Bayou Bouef yard	
Forest Oil Corp.			Block 4, E. Cameron, Gulf Marine Drilling Inc. (power-package rig)	
Gulf Oil Corporation	40' x 100'	1957	Rig Stacked at Morgan City, La.	

COMPANY	DESCRIPTION	YEAR BUILT	LOCATION	WATER DEPTH
Humble Oil & Refg. Co. Rig # 50	78' x 200'	1956	J Platform, Block 16, Grand Isle Area	50'
Humble Oil & Refg. Co. Rig # 54		1958	B Platform, Block 54, South Timbalier Area	
Mecom Petroleums	82' x 193'	1948	Rig removed from platform	34'
Phillips Petroleum Co.	85' x 140'	1955	Block 184, Eugene Island Area, vacated, platform remains	84'
Phillips Petroleum Co.	88'9" x 140'	1955	Block 129-A, Eugene Island Area, La. Platform Inactive	52'
Phillips Petroleum Co.	88'9" x 140'	1956	Block 172, Eugene Island Area. Vacated platform	77'
Phillips Petroleum Co.	88'9" x 140'	1956	Block 191, Eugene Island. Platform inactive	81'
Phillips Petroleum Co.	88'9" x 140'	1957	Block 129, Eugene Island Area. Platform Inactive	57'
Pure Oil Company Converted LST	328' x 50'	1958	Orange, Texas	
Pure Oil Company	52' x 106' with 51' x 82' pipe rack	1957	Well completed, rig removed	72'
Shell-Humble	115' x 135'	1958	Block 188, Eugene Island Area	68'
Shell Oil Company	115' x 135'	1958	Block 192, West Cameron Area	56'
Shell Oil Company	55' x 110'	1958	Block 176, Eugene Island Area	86'
Sinclair Oil & Gas Co.	112' x 133'	1956	Block 86, South Timbalier Area, Rimrock Tidelands, contractor (converting to production platform)	92'
Sinclair Oil & Gas Co.	118' x 142'	1957	Block 175, Eugene Island Area, Rimrock Tidelands, Contractor	85'
Sinclair Oil & Gas Co.	118' x 142'	1957	Block 190, Eugene Island Area. Rimrock Tidelands, contractor (converting to production platform)	72'
Sinclair Oil & Gas Co.	118' x 142'		In storage at McDermott Bayou Bouef yard	
Sinclair Oil & Gas Co.	80' x 180'	1955	Block 15, South Timbalier. No rig in operation	
Sinclair Oil & Gas Co. (L Shaped)		1955	Block 175, Eugene Island Area	
The Superior Oil Co.	138' x 326'	1955	B-6, Block 71 West Cameron. Temporarily completed, 6-20-58, now waiting on location.	
The Superior Oil Co	96' x 225'	1958	B-1 Vermilion Block 76, T. D. 11,195'. Fishing at 7,000'.	

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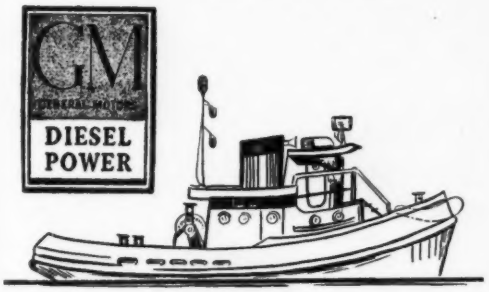

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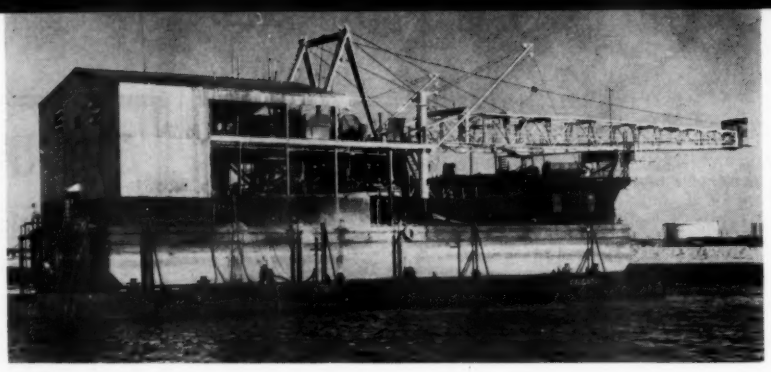


Down but not out . . .

Mr. Gus Drills Again

It looked like the end for one of the most famous mobile units of the day when Mr. Gus kicked up its spud legs and sank off Texas' Padre Island last year.

But the big drilling barge—one-time holder of practically every major drilling record—is working again, though a great deal changed.

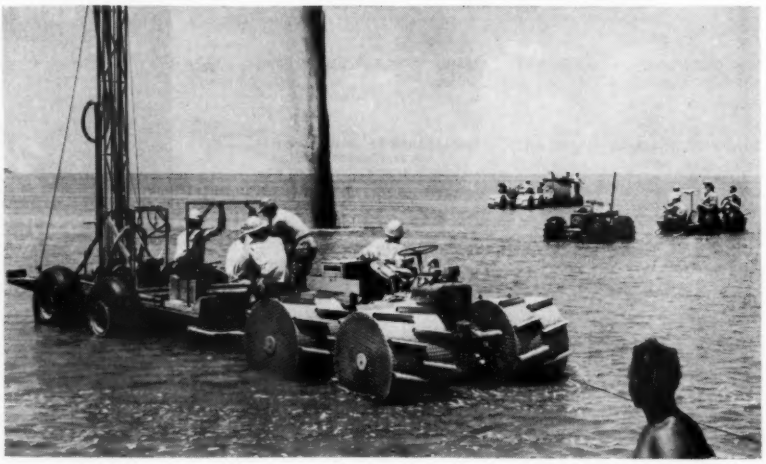
C. G. Glasscock Drilling Company salvaged the 220 ft. by 80 ft. by 15 ft. lower hull and placed upon it a 160 ft. by 38 ft. by 11 ft. conventional bay barge mounting a heavy duty drilling rig. They called the result (pictured above) a "piggy back" drilling barge, though the official title is **C.G.G. No. 15.**

The double decked arrangement permits drilling in water 20 ft. deep while allowing six ft. of free board on the drilling barge.

The "piggy back" rig is currently on location for The Texas Company in Galveston Bay.

This odd oil world . . .

Mud Flats Armada



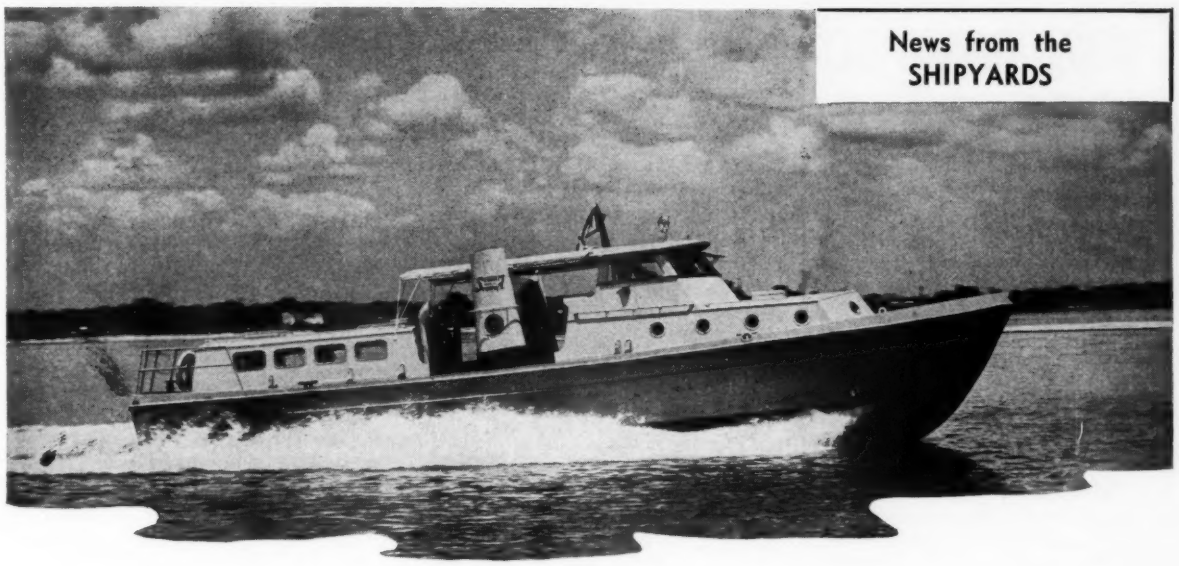
When the never-ending search for oil took them onto the tidal flats along the Gulf Coast of South Texas, members of Shell Oil Company's Seismic Party 11 were faced with an unusual transportation problem.

The bottom was too soft and muddy for trucks, and the water too shallow for boats.

The Shell crew solved the problem with the unique vehicles pictured above. Equipment was mounted on metal trailers fitted with large, under-inflated aircraft tires.

Motive power was provided by specially-designed little tractors called "David Buggies," which are equipped with metal, drum-like wheels (foreground) or fat rubber-cleated tires (center).

In picture the crew watches as a small geyser of water and mud is thrown into the air by a seismic charge.



Sewart built . . .

Turbine-Powered Crew Boat Makes 35 mph

High speed, small size, light weight and low maintenance insure turbine engines future roll in marine oil operations

A GAS-TURBINE powered crew boat, aptly named **Jupiter** streaked out into Galveston Bay not long ago cutting capers for offshore oil operators and other guests of Sewart Seacraft, Inc., the builder of the boat, and Solar Aircraft Company, manufacturer of the craft's two 500 hp turbines.

The sleek 55-ft. craft has a cruising speed of 35 mph, and on the water this is considered super-fast. As a matter of fact it is enough to trim labor costs $2000 per week on a drilling rig operating 70 miles from shore in Lake Maracaibo where the **Jupiter** will be used.

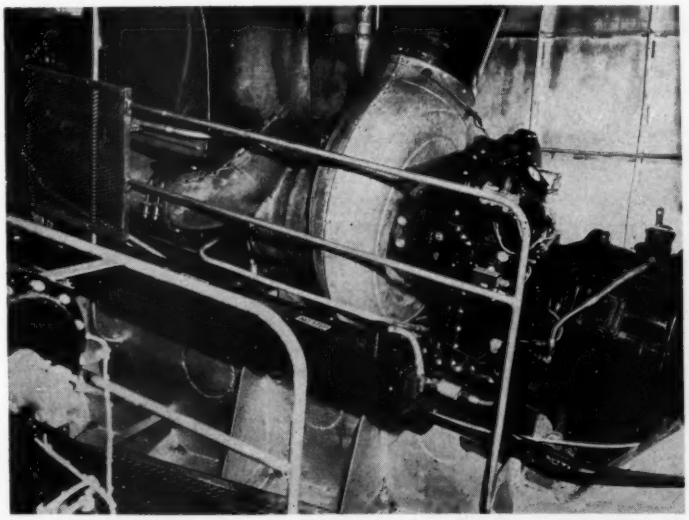
Venezuelan law requires that crews be paid time and half for boat time going and coming from the rig, and with crews averaging 15 men each, time on the water represents real money.

A ride on the **Jupiter** is a memorable experience. First indication that the boat is something out of the ordinary comes when the skipper punches the starter button. From the bow of the craft comes the whine of an aircraft inertia starter and moments later this is replaced by the high-pitched power song of the turbines.

With the flick of a control lever, the skipper sends the craft digging out into the water, flashing from dead still to 35 mph in a matter of 12 seconds. This jack rabbit start is not standard operating procedure, but it demonstrates the tremendous torque the turbines will develop at high rpm.

One of the great advantages of turbines is that they have no inter-

(Continued on next page)



Use of Solar Jupiter gas turbines, reduces engine weight almost 80 percent, greatly increases handling efficiency of the boat. Other advantages of turbine engines includes lack of vibration, small size, and the ability to operate on a variety of fuels.

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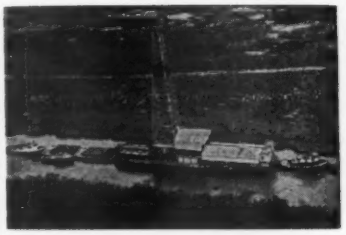

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Shipyard . . .

(Continued from preceding page)

nal stress reversals, and they can operate at full load indefinitely. In this respect they resemble electric motors which can operate year in and year out with virtually no maintenance because they have no push-pull of internal parts.

Extreme simplicity of the engine design—it has only three major components—also means that such infrequent repairs as are needed can be made easily and quickly from a small stock of replacement parts.

Other advantages of the turbine engines include its lack of vibration, light weight, small size, and ability to operate on a variety of fuels.

The turbines can run on either liquid or gaseous fuel, although they cannot use either fuel without modification to the fuel system. Usual fuel is diesel oil, but they can burn any other kind of liquid fuel without modification. They have even been run on peanut oil.

The Solar Jupiter engine is about half the size of a diesel engine of similar power.

Height	41.88 in.
Width	31.62 in.
Length	90.33 in.
Weight	1175 lb.
Rating	500 hp

Solar Aircraft developed the gas turbine power unit for the Navy, which has been using them for several years. The Sewart crewboat is the first commercial application of the power plants.

Solar factory representatives spent several days in Houston demonstrating the **Jupiter** to oil company executives, who appeared to be greatly impressed with its high performance.

Vital statistics of the new crewboat are:

Overall length	55 ft.
Beam	15 ft. 1 in.
Draft	2 ft. 5 in.
Waterline length	50 ft.
Displacement	21½ tons
Fuel capacity	600 gals.
Passenger capacity	16

Communications . . .

(Continued from page 45)

spectrum width, without sacrificing privacy or causing intra-channel interference. A major step in this direction has been the development of "sideband" transmission within the past few years. This reduces the band width needed to transmit messages by about half. The armed services have been devoting considerable work to the development of sideband, and there has already been some use of the method in offshore communications.

Efforts to communicate within narrower bands were recognized in recent frequency reallocations by the FCC, which went into effect August 1, 1958. This will open many new channels for use by industrial communication systems. The action came about as the direct result of experiments by several communication engineers in the petroleum industry to split existing channels. Their work culminated in the reduction of channel band width from 40 kilocycles to 20 kilocycles.

Work on the effort to condense channel widths is continuing at a steady pace. Single sideband is one of the most outstanding experiments on it. Channel splitting has opened the door for the use of radio in everyday business. But there is a tremendous amount of experimental work that must be done to remove the obstacles still barring the way.

Bludworth Standard 75' Tow Boat 75'x26'x9'-6", 1200 hp

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CENTRO LAGO 2501, 25,000-bbl. oil gathering barge takes to the water following its completion by Levingston Shipbuilding Company, Orange, Texas. Operating the vessel on a 28,000-acre concession in Lake Maracaibo will be Signal Oil & Gas Company.

Unique Oil Gathering Barge To Serve in Lake Maracaibo

A 25,000-bbl. oil gathering barge, first of its type to be constructed, will go to work in a joint venture on a 28,000-acre concession in Lake Maracaibo, Venezuela.

Levingston Shipbuilding Company of Orange, Texas, built the unique vessel which was designed specifically for operations in Lake Maracaibo by Arthur D. Darden, Naval Architect and Marine Engineer of New Orleans.

Named the **Centro Lago 2501,** the barge was constructed to requirements of the American Bureau of Shipping, and is classified as short coastwise Gulf of Mexico and Lake Maracaibo vessel.

Dimensions of the barge, which will operate in Lake Maracaibo in about 100-ft. waters, are 239 ft. long, 56 ft. wide and 15.5 ft. deep at the sides.

Equipment . . . For its oil-gas separator the **Centro Lago 2501** utilizes a 60-in. by 20-ft. horizontal type made by Parkersburg Rig & Reel Company, Houston. Cargo pumps are Byron Jackson deep well turbines with a capacity of 1750 gpm at 100 psig, driven by a General Motors engine. Pumping capacity is rated at 5000 bbls. per hour.

The diesel generator set, consisting of an explosive proof Delco generator driven by a radiator cooled GM 2-71 engine, was supplied by George Engine Company, Harvey, Louisiana.

The vessel is equipped forward and aft with double drum mooring winches supplied by Lake Shore Manufacturing Company. In addition, there are two five-ton stiff-leg derricks with 35-ft. booms. Each crane is fitted with ⅜-in. wire rope leading to a five-ton hand operated Bebee hoist mounted at the base of the crane and providing a 290 degree swing.

Operating the **Centro Lago 2501** in Lake Maracaibo will be Signal Oil & Gas Company, operator for a joint venture on the marine concession. Participants in the venture are Hancock Oil Company, The Pure Oil Company and The Standard Oil Company (Ohio).

Largest Tanker to Transport Oil to U.S. from Persian Gulf

World's largest tanker will soon begin transporting oil from the Persian Gulf to the West Coast.

Completed recently by the Newport News Shipbuilding and Dry Dock Company, the 60,000-ton **Sansienena** is 810 ft. long. It will be operated by the Barracuda Tanker Corporation of New York for Union Oil Company of California.

A luxury feature is a swimming pool topside for benefit of the 64-man crew which the **Sansienena** will carry.

Carrying capacity is 20 million gals., and a 25,000-hp turbine is capable of propelling it at a speed of more than 17 knots. Cost of construction was $15 million.

Wrought Iron Crewboat Used In Navigation Aids Program

When Automatic Power, Inc., Houston, began their new "Offshore Maintenance Program" for aids to navigation recently, they looked around for a vessel that would be continuously seaworthy while offering maximum ease and safety for depositing and removing technicians from offshore platforms.

Their selection was a corrosion resistant wrought iron crewboat

(Continued on next page)

CHARLEEN B., wrought iron crewboat completed for Begnaud Marine Service by Platzer Shipyard of Houston a little more than a year ago was selected by Automatic Power, Inc. to operate in their new offshore maintenance program for "Aids to Navigation."

POWER BY KENNEDY

. . . aboard this 32′ all-steel crew boat whose 38.3 m.p.h. makes her the FASTEST boat of her type IN THE WORLD. Twin screw, she is powered by two GM Series 6-71B marine diesel engines supplied by . . .

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Shipyard . . .

(Continued from preceding page)

completed for Begnaud Marine service about a year ago and named the **Charleen B.**

Platzer Shipyard of Houston built the 95-ft. **Charleen B.** equipping it with a hull of wrought iron plate, a cathodic protection system, and epoxy resin coating on above-deck steel.

Hull was constructed of ⅜-in. wrought iron, and the keel is 1½-in. by 8-in wrought iron supplied by A. M. Byers Company.

Capable of a top speed of 14 mi. per hour, the **Charleen B.** has 35 ft. of open deck space and will carry 100,000 pounds of cargo.

The vessel's personal electronic equipment consists of a Bendix Model 155 automatic pilot, Bendix MR-3B radar, Apelco AE-190 AM radiotelephone, Bendix DR-9 depth recorder and a White wind speed indicator.

A complete repair shop is maintained aboard the vessel so technicians can make equipment overhauls between platform stops.

All material including fuel, lube oil and water necessary to maintain both the Model 18 and DA-20 units is carried aboard and replenished at regular intervals. Other repair equipment includes flasher, lamp-changer, lamps, batteries and miscellaneous parts for lantern and minor signal maintenance.

Automatic Power Inc.'s new maintenance program grew out of their pioneer arrangement of servicing private aids to navigation equipment. The offshore operator provided all marine transportation.

The arrangement was not entirely satisfactory due to such things as marine equipment not entirely suited to their requirements and difficulty in providing an adequate variety of parts in a mobile state to assure complete repairs on every call out.

Ideal solution was to conduct service work as the Coast Guard does with a vessel specially equipped with repair shop facilities, provisions for refueling diesel units and stocked with everything from the smallest electronic part to a short engine block assembly.

High concentration of structures in the area between Ship Shoal and West Cameron provided the initial opportunity. At the present time, the company is maintaining the aids to navigation on offshore platforms owned by Shell Oil Company, Tennessee Gas Transmission Company and the CATC group.

Lane-Wells–Elgen Corp. Merge, Move to Houston

John J. Neale, president of Lane-Wells, a Dresser Industry, announced recently that Houston will be the new world headquarters for Lane-Wells. Key personnel were moved from Los Angeles to Lane-Wells' newly expanded offices in Houston.

This move coinsides with the merger of Lane-Wells and The Elgen Corporation, a Dallas concern.

The organization will continue to be known as Lane-Wells Company and will offer the advanced Elgen Electrolog and accessory services in addition to the complete line of nuclear logging, perforating, and other wireline services already offered by Lane-Wells.

Neale will continue as president of the company and Kirby Gee formerly president of Elgen, will be vice president in charge of operations. Other officers include Jas. D. Hughes, vice president in charge of sales; John H. Zauner, vice president and technical director; and R. W. Keener, vice president.

Three new divisions are also being created in order to make the company more responsive to industry needs. Offices in New Orleans, Denver and Midland, Texas are being opened in addition to existing offices in Houston, Oklahoma City, and Paramount, California.

Matter Gets Top Position With Homco International

George E. Matter has been named executive vice-president and general manager of Homco International, C. A., with offices and warehouse facilities in Los Morochas, Venezuela.

Matter

Matter began his tenure of duty with Homco as a directional drilling engineer in Corpus Christi, Texas, in 1941. Later that year he was transferred to Bakersfield, Calif., as district manager.

When Homco moved its division offices from Bakersfield to Long Beach, he was made division manager.

Baroid's Souther Appointed Foreign Operations Manager

Baroid Division National Lead Company has announced the appointment of R. E. Souther as manager of foreign operations for the company.

Souther has been with Baroid for 19 years, having served as chief engineer of Baroid's well logging department, manager equipment department, and manager of the well logging department.

George Engine Names Two To New Executive Positions

George Engine Company, Inc., Harvey, La., has named James A. Cobb to the position of company secretary.

Cobb

Cobb was formerly comptroller, and will continue in this post after assuming his new duties as secretary - comptroller.

H. J. Lopez, Jr. has been named credit manager, succeeding George Grant who is no longer with the firm.

Lopez is also assistant treasurer and advertising manager.

Dresser Appoints Gasser Executive Vice President

Appointment of J. P. Gasser as executive vice president of Dresser Industries, Inc., Dallas, Texas, was announced by J. B. O'Connor, president.

Gasser

Gasser was executive vice president and member of the executive committee from Seaboard Oil Company from 1953 until this year.

His appointment follows a company policy of strengthening overall top executive management that began with the appointment of John Lawrence and R. E. Reimer as executive vice presidents earlier this year. Reimer is also treasurer and principal financial officer of Dresser.

Schlumberger Names Alley Sales Engineer in Louisiana

Schlumberger Well Surveying Corporation has named B. W. (Bill) Alley, formerly field engineer at Golden Meadows, to sales engineer for the South Louisiana Division at New Orleans.

Now in the sales department at Houston is W. P. (Pat) Biggs, who formerly was manager at Pleasanton, Tex.

Fast Growing Service Group Moves Headquarters to Dallas

The fastest growing oil industry organization, the Association of Oilwell Servicing Contractors located in Odessa, Texas, has moved its headquarters office to Dallas, the Board of Directors announced.

Founded in West Texas early in 1956, the AOSC has blossomed into a national organization with 15 chapters in seven oil producing Southwestern states, including Texas, New Mexico, Louisiana, Mississippi, Arkansas, Oklahoma, and Kansas.

The AOSC has as its basic objective a vigorous competition in a healthy oilwell servicing industry. Its working plan is to pool the individual servicing contractors' thinking on such industry-wide problems as employee relations, supervisor training, safety, insurance, taxation and public relations.

James A. Gobel, Jr., of Odessa has been named assistant executive-secretary and field representative for the Association.

Gobel has had five years experience in the oil supply industry and production equipment in the Permian Basin.

New Tree–New Ideas

Parallel flow line, socket for gin pole and small size mark Christmas tree for Lake Maracaibo

Developed especially for Lake Maracaibo, Venezuela, this single string solid block tree valve has swabbing valve, choke, and flow line valve, plus gin pole socket and small threaded outlets for pressure control equipment and sampling.

The tree was developed by Cameron Iron Works, Inc., of Houston with suggestions and help from companies associated in the Royal Dutch Shell group. It takes up only 20 percent of the space required by conventional trees of the same pressure rating and size. It also provides 10 percent more flow way because of the oversize bore feature.

Incorporated in this design is a gin pol socket which can be used for maintenance purposes on installation. Design also makes its possible for the flow line to parallel the casing down to a depth in the lake which will give ample ship clearance and an added safety feature.

Trees of this type in the 3,000 lb. working pressure range have been purchased by Asiatic Petroleum Cor-

poration and sold to their associate Compania Shell de Venezuela to be installed in Lake Maracaibo.

Clad Plate Process Gives Corrosion-Resistant Alloys

For the first time, four highly corrosion-resistant alloys have been successfully rolled in clad plate form, it was announced by Lukens Steel Company.

Research on the four new cladding materials—Hastelloy B, Hastelloy F, Hastelloy C, and titanium—has progressed to the point where Lukens, the developer of the cladding process, will now consider inquiries about these new materials on an experimental-order basis.

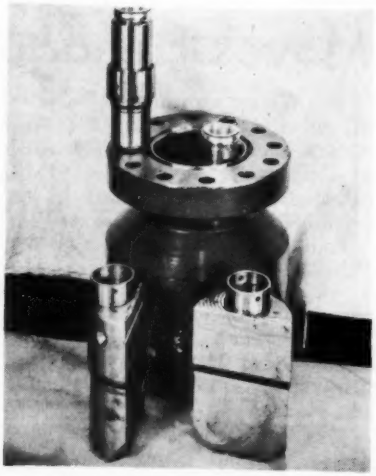
The Hastelloys, developed by the Haynes Stellite Company are ferroalloys using relatively large amounts of nickel and Chromium in addition to other alloying elements to achieve their remarkable corrosion-resistant properties.

For further information write Lukens Steel Company, Coatesville, Pennsylvania.

OCT Tubing Hanger Gives Complete Well Control

A dual tubing hanger, designated the U-65, has been developed by the Oil Center Tool Company which allows both strings of tubing to be raised simultaneously at completion or to later kill the well, with complete control at all times.

This hanger is used as a component part of C-T-T's Universal Tubing Head.



Basic advantages to be derived from use of the U-65 are said to be: complete well control at all times; setting procedures are simple and direct; sleeve valves eliminated, resulting in savings; well is completed with the Christmas tree in place; well may be killed through the tree; all major flanged connections may be tested in the field.

Head is manufactured in a complete range of sizes and working pressures from 2000 psi to 10,000 psi.

For further information write Oil Center Tool Company, P. O. Box 3091, Houston, Texas.

Onan Markets New Series Of 3000 Watt D-E Plants

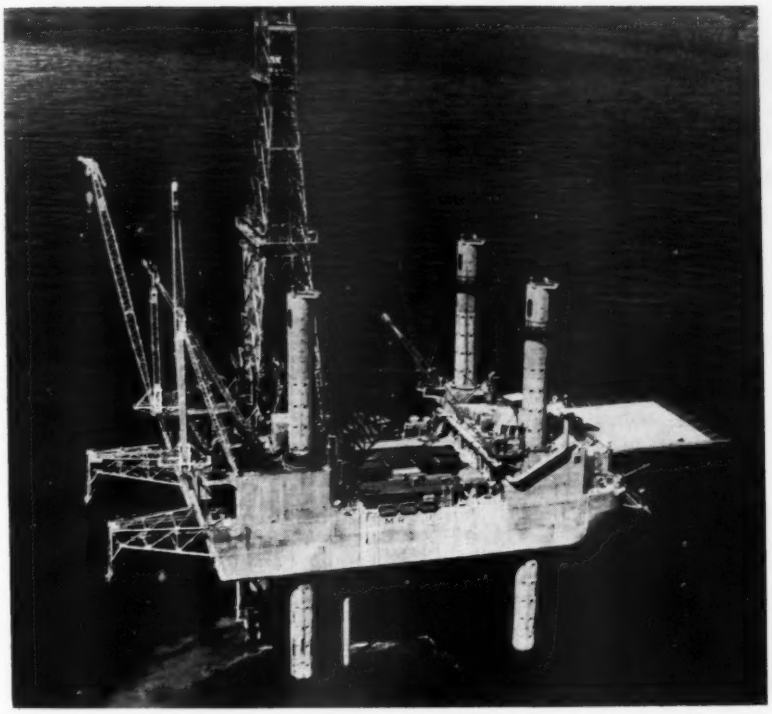
A new series of marine diesel electric plants has been placed on the market by D. W. Onan & Sons, Inc., Minneapolis, Minnesota.

This series 3MDSL will provide 3000 watts of dependable electric power for all types of craft. It is designed and built specifically for marine use. It has all the built-in safety features for below-deck installation.

Series 3MDSL electric plants are available in standard 60-cycle, ac voltages; in combination 115 volts, 60-cycle and 32 volts dc; and in both 32 volt and 110 volt dc battery chargers.

The vertical, single-cylinder, 4-cycle, water-cooled engine is an injection full diesel unit. An Onan-built, all-climate, insulated generator is direct-connected to the engine making a single, rigid set.

For further information write, D. W. Onan & Sons, Inc., Minneapolis 14, Minnesota.



Wildcat on one of the most expensive blocks in the Gulf of Mexico—5000 acres which cost CATC a bonus of $9.4 million—is being drilled by MR. GUS II. The powerful mobile unit owned by C. G. Glasscock Drilling Company recently drilled a triple completion in 137-ft. waters.

Louisiana draws wildcats . . .

Untested Leases Look Good

On one of the most expensive blocks in the Gulf of Mexico, the giant mobile unit **Mr. Gus II** is drilling the first wildcat.

The high priced lease, which is owned by the CATC Group, is Block 208, Eugene Island area, about 50 mi. offshore. Test well, located in about 96 ft. of water is to be drilled to 14,000 ft. by C. G. Glasscock Drilling Company's rig.

The new mobile unit, which recently completed a triple completion in 137-ft. water, nearly set a new drilling record during the early stages of its latest effort. In a single day, 2050 ft. of hole were drilled.

CATC Group paid the federal government $9.4 million in total bonuses for the 5000-acre block.

New oil production was reported in at least two areas off Louisiana last month.

Marsh Island tests . . . On a large lease in the Marsh Island region, The Texas Company apparently has one discovery, and maybe two, after waiting more than 20 years to drill. One of the tests on State Lease 340 was rumored to be a good discovery after it was bottomed at 12,395 ft. and perforated at the interval of 8954 to 8970 ft.

New pay . . . Over in Eugene Island Block 188, Sinclair Oil and Gas Company has extended production 2.5 mi. to the southeast with completion of No. A-4 OCS-0439 well.

Dry off Texas . . .

Operators Thwarted Again

Offshore drilling in Texas waters continued to reflect the slump last month with no new wells staked throughout the region.

The only offshore completions were abandoned, either as dry holes, or shut in. Standard of Texas, which drilled its first test along the upper Texas Gulf coast in two years, shut in the well after failing to obtain commercial production in the Miocene sand around 6700 ft.

The wildcat, designated the No. 1 Federal 140, flowed about 2 million cubic ft. of gas per day. Zapata Offshore Company drilled the effort with the mobile unit, **Vinegaroon,** 27 miles east of Galveston in about 51 ft. of water.

Morgan Exploration Company abandoned a well in the Chevron field off Kleberg County after drilling to 8236 ft. and failing to obtain production. Test was deviated after Sun Oil Company had drilled the original hole to 7988 ft.

New Discovery Completed On New Maracaibo Acreage

A new oil pool has been opened near the center of Lake Maraciabo on a 28,000-acre concession operated by Signal Oil & Gas of Venezuela.

Discovery well, known as Centro 5X, flowed 2,280 bbls. of 38.1-degree gravity oil per day from the Eocene. Nearest production is three mi. south of the Centro 3X which flowed 4,040 bbls. of crude daily from the C-5 Zone.

Further drilling will be undertaken at the discovery to determine the extent of the productive area.

Only a short time previously Signal had announced completion of its Centro 6X well. That one made 5880 bbls. per day through 203 ft. of perforations from the C-5 and C-6 Zones. Shut in tubing pressure was 2500 pounds.

Location of the Centro 6X is about 1.5 mi. southwest of the Centro 4X. The derrick has been moved to Centro 7, a development well to the C-2 zone in the vicinity of Centro 4X.

Since production was opened last winter, all wells on the lease have been shut in awaiting completion of production facilities, scheduled for late this summer.

Companies holding 25 percent interest in the concession in addition to Signal are Hancock Oil Company, The Pure Oil Company and The Standard Oil Company (Ohio).

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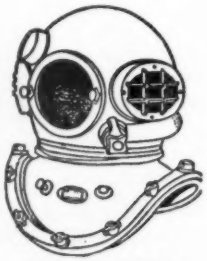

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OFFSHORE LOCATIONS

LOUISIANA

Cameron Parish

Magnolia Petroleum Company A-1 (OCS-090), State Lease 1203, East Cameron Block 62. Block 66, East Cameron Area. Proposed Depth 10,500 feet.

Shell Oil Company A-7 (OCS-0406), West Cameron Block 192. Block 82, West Cameron Area. Proposed Depth 10,600 feet.

A-8 (OCS-0406), West Cameron Block 192. Block 82, West Cameron Area. Proposed Depth 10,400 feet.

Iberia Parish

The Texas Company 1 (OCS-0310), State Lease 340, Marsh Island, Wildcat. From USC&GS Station "La Croix-1933" go (Grid) S 35 deg 42 min 31 sec E 27,905'. Proposed Depth 12,500 feet.

2 (OCS-0310), State Lease 340, Marsh Island, Wildcat. From USC&GS Station "Channel-1933" go (Grid) S 9 deg 35 min 55 sec W 48,899'. Proposed Depth 12,000 feet.

Jefferson Parish

The California Company I-5 (OCS-0371), State Lease 1277, Main Pass Block 68. Block 68, Main Pass Area. Proposed Depth 7150 feet.

Continental Oil Company C-6 (OCS-0133), State Lease 953, Grand Isle Block 47. Block 47, Grand Isle Area. Proposed Depth 13,750 feet.

Humble Oil & Refining Company J-16 (OCS-031), State Lease 803, Grand Isle Block 16. Block 23, Grand Isle Area. Proposed Depth 8500 feet.

La Fourche Parish

The California Company 28, State Lease 1365, Bay Marchand Block 2. Block 1, Bay Marchand Area. Proposed Depth 8400 feet.

T-7 State Lease 1365, Bay Marchand Block 2. Block 1, Bay Marchand Area. Proposed Depth 7200 feet.

2 (OCS-0392), State Lease 1488, Bay Marchand Block 2. Block 2, Bay Marchand Area. Proposed Depth 10,560 feet.

S-9 (OCS-0386), State Lease 1424, Bay Marchand Block 2. Block 23, Bay Marchand Area. Proposed Depth 8750 feet.

2 (OCS-0387), State Lease 1427, Bay Marchand Block 2. Block 24, Bay Marchand Area. Proposed Depth 8750 feet.

Gulf Oil Corporation 3-J (OCS-026), State Lease 1423, South Timbalier. Block 21, South Timbalier Area. Proposed Depth 5500 feet.

Plaquemines Parish

The California Company G-4 (OCS-0385), State Lease 1069, West Delta Block 30. Block 29, West Delta Area. Proposed Depth 12,200 feet.

10 State Lease 1922, West Delta Block 83. Block 83, West Delta Area. Proposed Depth 10,000 feet.

Continental Oil Company E-7 (OCS-0138), State Lease 970, West Delta Block 30. Block 45, West Delta Area. Proposed Depth 9800 feet.

22 State Lease 978, West Delta Block 83. Block 53, West Delta Area. Proposed Depth 10,300 feet.

21 State Lease 978, West Delta Block 83. Block 83, West Delta Area. Proposed Depth 10,300 feet.

Hassie Hunt Trusts, et al 18 State Lease 2484, South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9800 feet.

2 St-Harvey "C" Tr 2, South Pass Block 24. Block 24, South Pass Area. Proposed Depth 9800 feet.

Herbert J. Schmitz et al 1 State Lease 2548, West Delta Block 51, Wildcat. Block 51, West Delta Area. Proposed Depth 7100 feet.

Shell Oil Company 26 State Lease 1011, South Pass Block 27. Block 27, South Pass Area. Proposed Depth 8000 feet. 25-A State Lease 1012, South Pass Block 27. Block 27, South Pass Area. Proposed Depth 6950 feet.

42 State Lease 1012, South Pass Block 27. Block 27, South Pass Area. Proposed Depth 7550 feet.

19 State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 9200 feet.

31 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 6950 feet. 36 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 7350 feet. 37 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 7550 feet. 38 (OCS-0353), State Lease 1012, South Pass Block 27. Block 28, South Pass Area. Proposed Depth 10,500 feet.

St. Mary Parish

Continental Oil Company 1 (OCS-0576), Eugene Island Block 208, Wildcat. Block 208, Eugene Island Area. Proposed Depth 14,000 feet.

Placid Oil Company 2 (OCS-0477), Eugene Island Block 188. Block 120, Eugene Island Area. Proposed Depth not given.

Terrebonne Parish

Gulf Oil Corporation 3-J (OCS-026), State Lease 1423, South Timbalier Block 121. Block 21, South Timbalier Area. Proposed Depth 5500 feet.

Magnolia Petroleum Company H-2 State Lease 766, Ship Shoal Block 72. Block 72, Ship Shoal Area. Proposed Depth 9000 feet.

Sinclair Oil & Gas Company 3 (OCS-0440), Ship Shoal Block 154. Block 153, Ship Shoal Area. Proposed Depth 10,000 feet.

Vermilion Parish

Continental Oil Company A-7 (OCS-0496), Vermilion Block 120. Block 120, Vermilion Area. Proposed Depth 9000 feet.

Thirteen employes of Welex, Inc., Fort Worth, Texas, recently graduated from an instrumentation school presented at the company's research and development laboratory in Houston. Attending the class, which covered all phases of logging techniques, were representatives from the United States, Canadian, and British West Indies districts.

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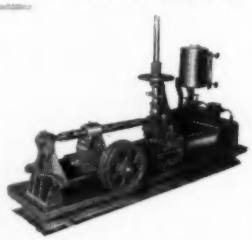

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OFFSHORE COMPLETIONS

TEXAS

Jefferson County

Union Oil & Gas Corporation of Louisiana 1 State Tract 84-S, Wildcat. Dry. Total Depth 6775 feet. State Tract 84-S, Gulf of Mexico.

Kleberg County

Morgan Exploration Company 1 State Tract 938. Dry. Total Depth 8236 feet. State Tract 938, Gulf of Mexico.

LOUISIANA

Cameron Parish

J. Ray McDermott & Company, Inc. B-1 (OCS-0265), State Lease 1123, West Cameron Block 33. Gas. Total Depth 14,654 feet. Perfs 14,194-214 feet. PT, TP, Grav., GLR not given. Block 33, West Cameron Area. Contractor, Offshore Company.

Shell Oil Company A-4 (OCS-0406), West Cameron Block 192. Temporarily Abandoned. Total Depth 10,050 feet. Block 82, East Cameron Area.

A-6 (OCS-0406), West Cameron Block 192. Gas. Total Depth 10,382 feet. Not perforated. Block 82, West Cameron Area.

Jefferson Parish

Continental Oil Company 1 (OCS-0126), State Lease 946, Grand Isle Block 47. Dry. Total Depth 13,026 feet. Block 39, Grand Isle Area. Contractor, Glasscock Drilling Company.

B-7 (OCS-0128), State Lease 948, Grand Isle Block 47. Triple Oil. Total Depth 13,040 feet. Perfs 10,513-23 feet. PT 198 BOPD and 156,000 CFGPD on 8/64-inch choke. TP 1700 pounds. Grav. 33, GOR 708-1. Perfs 10,513-23 feet. PT 174 BOPD and 135,000 CFGPD on 8/64-inch choke. TP 1500 pounds. Grav. 33.5, GOR 777-1. Perfs 10,128-34 feet. PT 221 BOPD and 131,000 CFGPD on 8/64-inch choke. TP 1375 pounds. Grav. 32.5, GOR 595-1. Block 40, Grand Isle Area. Contractor, Rowan Drilling Company.

A-10 (OCS-0133), State Lease 953, Grand Isle Block 47. Dual Oil. Total Depth 10,224 feet. Perfs 10,104-114 feet. PT 196 BOPD and 100,000 CFGPD on 8/64-inch choke. TP 1600 pounds. Grav. 35, GOR 519-1. Perfs 9356-62 feet. PT 178 BOPD and 150,000 CFGPD on 8/64-inch

A fully operational model crane is one feature aspect of a Safety in Lifting school initiated by the Wire Rope Division, Jones & Laughlin Steel Corporation. Here, Frank Sherman, materials handling specialist, demonstrates correct method of lifting high pressure generator.

choke. Grav. 35.6, GOR 644-1. Block 47, Grand Isle Area. Contractor, Loffland Brothers.

C-5 (OCS-0133), State Lease 953, Grand Isle Block 47. Triple Oil. Total Depth 11,438 feet. Perfs 11,074-78 feet, 11,081-085 feet. PT 201 BOPD and 147,000 CFGPD on 8/64-inch choke. TP 1750 pounds. Grav. 34, GOR 755-1. Perfs 10,537-41 feet, 10,546-48 feet. PT 162 BOPD and 148,000 CFGPD on ⅛-inch choke. TP 1350 pounds. Grav. 31.1, GOR 1913-1. Perfs 10,222-27 feet. PT 196 BOPD and 118,000 CFGPD on 8/64-inch choke. TP 1650 pounds. Grav. 33.4, GOR 604-1. Block 47, Grand Isle Area. Contractor, Loffland Brothers.

E-1 (OCS-0134), State Lease 954, Grand Isle Block 47. Oil. Total Depth 16,001 feet. Perfs 10,020-26 feet. PT 188 BOPD and 143,000 CFGPD on 8/64-inch choke. TP 1600 pounds. Grav. 32.5, GOR 761-1. Block 48, Grand Isle Area. Contractor, Shoreline Drilling Company.

Humble Oil & Refining Company J-14 (OCS-031), State Lease 803, Grand Isle Block 16. Dual Oil. Total Depth 7975 feet. Perfs 7877-7885 feet. PT 214.66 BOPD and 98,890 CFGPD on ⅛-inch choke. TP 1260 pounds. Grav. 35.2, GOR 460-1. Perfs 7400-7407 feet. PT 204.48 BOPD and 98,100 CFGPD on ⅛-inch choke. TP 1200 pounds. Grav. 36.6, GOR 480-1. Block 23, Grand Isle Area.

La Fourche Parish

Block 27 Associates, Ltd. A-1 OCS-0226), State Lease 1425, South Timbalier Block 27, Wildcat. Temporarily Abandoned. Total Depth 16,244 feet. Block 27, South Timbalier Area. Contractor, Coastal Marine Drilling & Construction Company.

The California Company 26 State Lease 1365, Bay Marchand Block 2. Dry. Total Depth 7066 feet. Block 1, Bay Marchand Area.

27 State Lease 1365, Bay Marchand Block 2. Oil. Total Depth 7534 feet. Perfs 7477-7502 feet. PT 272 BOPD and 190,000 CFGPD on 10/64-inch choke. TP 1175 pounds. Grav. 36.4, GOR 700-1. Block 1, Bay Marchand Area. Contractor, Rowan Drilling Company.

T-5 State Lease 1365, Bay Marchand Block 2. Oil. Total Depth 7639 feet. Perfs 7487-7517 feet. PT 208 BOPD and 36,000 CFGPD on 10/64-inch choke. TP 485 pounds. Grav. 16.3, GOR 271-1. Block 1, Bay Machand Area. Contractor, Noble Drilling Company.

2 (OCS-0369), State Lease 1366, Bay Marchand Block 2. Dry. Total Depth 9059 feet. Block 2, Bay Marchand Area.

S-8 (OCS-0386), State Lease 1024, Bay Marchand Block 2. Oil. Total Depth 10,004 feet. Perfs 9566-88 feet. PT 516 BOPD and 390,000 CFGPD on 10/64-inch choke. TP 2975 pounds. Grav. 25.8, GOR 755-1. Block 23, Bay Marchand Area. Contractor, Noble Drilling Company.

Plaquemines Parish

The California Company I-3 (OCS-0383), State Lease 1354, Main Pass Block 69. Dry. Total Depth 8733 feet. Block 68, Main Pass Area.

5 State Lease 2589, South Pass Block 5. Dry. Total Depth 10,703 feet. Block 5, South Pass Area.

Cities Service Producing Company 2 State Lease 2715, Main Pass Block 45, Wildcat. Dry. Total Depth 9350 feet. Block 45, Main Pass Area. Contractor, Kerr-McGee Oil Industries, Inc.

Continental Oil Company 20 State Lease 978, West Delta Block 83. Oil. Total Depth 10,299 feet. Perfs 10,128-36 feet. PT 285 BOPD and 199,000 CFGPD on 8/64-inch choke. TP 2050 pounds. Grav. 34.8, GOR 709-1. Block 53, West Delta Area. Contractor, Rowan Drilling Company.

Hassie Hunt Trusts, et al 1 State Lease 2484 Unit 6, South Pass Block 24. Oil. Total Depth 8910 feet. Perfs 8730-44 feet. PT 211 BOPD on 12/64-inch choke. TP 750 pounds. Grav. 32.4, GOR 928-1. Block 24, South Pass Area. Contractor, Penrod Drilling Company.

13 State Lease 2484, South Pass Block 24. Dual Oil.

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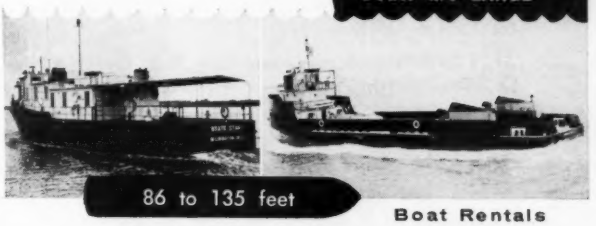

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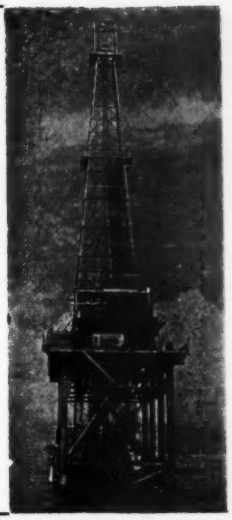

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Total Depth 9002 feet. Perfs 8578-84 feet. PT 260 BOPD on 8/64-inch choke. TP 1200 pounds. Grav. 30.8, GOR 896-1. Perfs 8410-14 feet. PT 195 BOPD on 9/64-inch choke. TP 1220 pounds. Grav. 21, GOR 893-1. Block 24, South Pass Area. Contractor, Penrod Drilling Company.

1 St-Harvey "C" Tr 2, South Pass Block 24. Dry. Total Depth 8810 feet. Block 24, South Pass Area. Contractor, Penrod Drilling Company.

3 St-Harvey "C" Tr 1, South Pass Block 24. Oil. Total Depth 9030 feet. Perfs 8624-29 feet. PT 87 BOPD on 9/64-inch choke. TP 750 pounds. Grav. 32.2, GOR 633-1. Block 24, South Pass Area.

Shell Oil Company 21 State Lease 1355, Main Pass Block 69. Oil. Total depth 7604 feet. Perfs 7127-41 feet. PT 157 BOPD on 7/64-inch choke. TP 1160 pounds. Grav. not given, GOR 567-1. Block 69, Main Pass Area.

70 State Lease 998, South Pass Block 24. Oil. Total Depth 8008 feet. Perfs 7868-77 feet. PT 183 BOPD and 71,000 CFGPD on 8/64-inch choke. TP 850 pounds. Grav. 28.1, GOR 388-1. Block 11, South Pass Area.

17 State Lease 999, South Pass Block 24. Dual Oil. Total Depth 10,200 feet. Perfs 9255-41 feet. PT 213 BOPD and 198,000 CFGPD on 7/64-inch choke. TP 1950 pounds. Grav. 33.8, GOR 929-1. Perfs 10,049-60 feet. PT 169 BOPD and 177,000 CFGPD on 7/64-inch choke. TP 1600 pounds. Grav. 35.4, GOR 1048-1. Block 12, South Pass Area.

B-28 (OCS-0349), State Lease 1007, South Pass Block 27. Oil. Total Depth 6654 feet. Perfs 6503-18 feet. PT 115 BOPD on 9/64-inch choke. TP 760 pounds. Grav. 29.2, GOR 565-1. Block 23, South Pass Area.

13 (OCS-0353), State Lease 1012, South Pass Block 27. Oil. Total Depth 9649 feet. Perfs 7775-90 feet. PT 223 BOPD and 118,000 CFGPD on 15/64-inch choke. TP 510 pounds. Grav. 28.5, GOR 524-1. Block 28, South Pass Area.

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St. Mary Parish

Phillips Petroleum Company B-5 (OCS-0474), Eugene Island Block 128. Dry. Total Depth 13,029 feet. Block 129-A, Eugene Island Area.

Placid Oil Company 1 (OCS-0477), Eugene Island Block 210, Wildcat. Dry. Total Depth 16,160 feet. Block 210, Eugene Island Area. Contractor, Penrod Drilling Company.

Shell Oil Company A-2 (OCS-0445), Eugene Island Block 175. Temporarily Abandoned. Total Depth 12,000 feet. Block 176, Eugene Island Area. Contractor, Reading & Bates Offshore Drilling Company.

A-2 (OCS-0443), Eugene Island Block 188. Gas. Total Depth 14,141 feet. Perfs 14,017-039 feet. PT, TP, Grav., GOR, not given. Block 188, Eugene Island Area. Contractor, Loffland Brothers.

Sinclair Oil & Gas Company A-4 (OCS-0439), Eugene Island Block 188. Oil. Total Depth 9901 feet. Perfs 9272-78 feet. PT 350 BOPD and 240,000 CFGPD on 8/64-inch choke. TP 2450 pounds. Grav. 34.2, GOR 703-1. Block 190, Eugene Island Area. Contractor, Rimrock-Tidelands Inc.

Terrebonne Parish

Magnolia Petroleum Company A-4 (OCS-077), State Lease 777, Ship Shoal Block 113. Dry. Total Depth 5722 feet. Block 113, Ship Shoal Area.

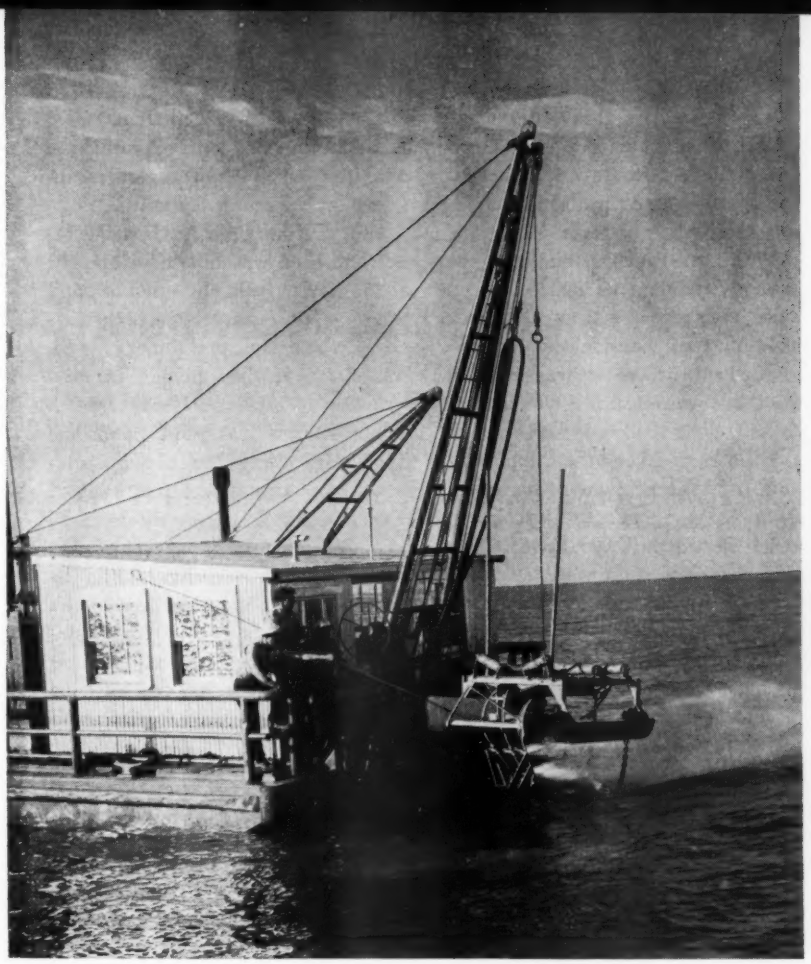
Sinclair Oil & Gas Company 2 (OCS-0440), Ship Shoal Block 154. Dry. Total Depth 10,000 feet. Block 153, Ship Shoal Area. Contractor, Barnwell Offshore, Inc.

Vermilion Area

The California Company B-3 (OCS-0443), Vermilion Block 164. Dry. Total Depth 6220 feet. Block 179, Vermilion Area.

Continental Oil Company A-6 (OCS-0487), Vermilion Block 120. Dry. Total Depth 8400 feet. Block 120, Vermilion Area. Contractor, Reading & Bates Offshore Drilling Company.

Shell Oil Company 1-S (OCS-0449), Vermilion Block 164. Dry. Total Depth 711 feet. Block 17, Vermilion Area. Contractor, McClelland Engineers.



Crew members prepare to lower Callahan's plow to the bottom of a Louisiana bay. Powerful water jets help dispense the soft silt. Experimental work on the original scale model was carried on in Callahan's back yard.

Leon Callahan figured there must be a faster, cheaper way of making ditch on the bottom of Louisiana's shallow bays.

Submarine pipelining

Callahan's Jet Plow

An invention for underwater ditching has speeded up pipe-laying for Gulf crews in Louisiana bays

LEON Callahan first went to work for Gulf Oil Corporation in 1922 at Orangefield, Texas, then the "El Dorado" of the Texas Gulf Coast area. He was a lanky farm boy fresh from his native Erath, Louisiana.

It was still the era of wooden derricks and iron men. Mule teams provided the main source of power to move heavy drilling equipment through the knee-deep mud. The roar of boilers and chug of steam engines all contributed to the din of operation and the air of excitement.

The noise and smell appealed to young Callahan. It looked to him like oil field work was a lot more interesting than farm work. Besides, it paid more. He decided to stay.

Today, 35 years later, Callahan is glad of the decision he made as a youth. More than twenty of those years have been devoted to pipeline connection work in the coastal oilfields of Louisiana.

During that time he has watched and participated in the development of well connection in the marshlands. Men who had years of connection experience on dry land were put to work on this operation, only to find that their experience meant nothing in marsh country.

Placed in charge of the work at Quarantine Bay, Louisiana, shortly after the discovery well was brought in, Callahan soon found that the difference in topography was going to necessitate changes in the methods used by his crew. They had been given a wooden barge large enough to hold a drilling rig. When they needed to move it, motive power was furnished by crew members, poling it laboriously. Later on they got the crew boats to add their weight. This speeded up their movement but it then presented the problem of stopping the barge accurately.

Eventually these problems were solved with smaller, self-propelled barges equipped with power-operated spuds to stop them, and

(Continued on next page)

Callahan's Plow . . .

(Continued from preceding page)

powered cranes to assist in pipe handling.

Particularly vexing to Callahan was the problem of ditching under shallow bays. Ordinarily left to independent contractors, the company here relied on him to stake the routes. This interfered with other phases of his work. He started thinking about easier ways of burying lines. One possible solution was for his crew to dig their own ditches as they laid the pipe. He mulled the problem over for a long time, and finally came up with an idea for a ditching device that might do the job.

Basically, his machine went back to the mule-drawn plows behind which he had walked so many miles as a boy. But there were certain changes. For one thing, this was a jet-propelled plow. At least it used jets of high-pressure water to assist the metal share in displacing the soft muddy bay bottoms.

While the device sounds simple enough, refinements needed to enable it to do the job Callahan wanted, took considerable thought and sweat before it was finished. Pontoons were installed on each side to help float the plow, and to serve as runners and keep the ditch depth uniform. Water lines were suspended from an A-frame, with counterweights on a pulley arrangement to keep them out of the way.

Callahan did most of his experimental work on a scale model he had made himself. He tested it in his back yard. It was fortunate that most of the bugs had been ironed out, because Mrs. Callahan called a halt to the back yard experimental activities when they began to infringe on her flower beds.

Gulf's New Orleans District office had been watching development of the device from the sidelines, and lending encouragement occassionally. When the preliminary work was finished, they helped in construction of the full-size model. Their interest has paid handsome dividends. Using the plow, Callahan's crew can now lay a joint of pipe and dig 30 ft. of ditch in 30 seconds. Three thousand feet of pipe made up and carefully laid in its own ditch, in less than six hour's working time, is normal for Callahan's crew. Quite a contrast to their early efforts when 750 feet of pipe was a good day's work.

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Offshore Production Jumps Though Conoco Profits Drop

Net income of Continental Oil Company and consolidated subsidiaries for the second quarter of 1958 was $9.5 million compared with $10.1 million for the second quarter of 1957, a decrease of 5.6 percent.

Earnings for the first half of 1958 were $20.2 million, down 14.8 percent from the 1957 first half. Dividends of 40 cents per share were paid in each of the first two quarters of 1958, the same as in 1957.

Offshore operations . . . During the first six months of the year, Continental participated in the completion of 24 oil wells and eight gas wells in the offshore area.

Included among these was a quadruple pay well, the first ever completed by using four strings of tubing in a single hole. This well, drilled by Continental as operator for the four-party CATC group, tested more than 1100 bbls. daily from pay zones between 9022 and 9789 feet.

Since the beginning of the year, the CATC group has had a number of other multiple completions, including ten triple and five dual completion wells. Production offshore has increased from 4406 net barrels daily in June, 1957, to 7267 net barrels daily in June of the current year.

Gas reserves . . . Regulatory procedures of the Federal Power Commission has considerably hampered the sale of offshore gas reserves by Continental and the CATC group.

In June, 1957, the FPC authorized the sale of CATC Gas reserves from the East Cameron, West Cameron, and Vermilion areas to Tennessee Gas Transmission Company, only to have the certificate disapproved by the United States Third Circuit Court of Appeals last June.

The court ruled that the FPC had not determined whether "public convenience and necessity" required the sale of gas at the initial contract price of 21.4 cents per MCF.

The court decision has held up an MCN group contract (in which Continental has a 37½ percent interest) for the sale of gas from the West Cameron and Vermilion areas to Tennessee Gas.

Similarly, a proposed sale of gas from Block 110, West Cameron area, to Transcontinental Gas Pipe Line Corporation may be affected.

At any rate the MCN group is building a pipeline to shore which can be used for intrastate sales enabling the group to protect its leases until the certification matter is clarified.

Foreign operations . . . In April, 1958, the first exploratory well on the concession in the Gulf of Paria in Venezuela, in which Continental holds a 25 percent interest, was completed as a dual oil producer.

A second wildcat is now being drilled about four miles northwest of the initial well and two additional drilling platforms have been constructed on the Paria concession.

Equipment and Service Firms Grossed $1 Billion Plus in '57

Dollar value of products and services sold within the oil industry by equipment and service companies in 1957 was $1,132,995,694 according to figures released by the Petroleum Equipment Suppliers Association.

Present estimates based on 412 reports out of a possible 455 indicate the final figure for 1957 probably will approximate $1,175,000,000, which would be an increase of 7.3 percent over the 1955 total of $1,096,599,858.

Nearly 67 percent of the dollar volume resulted from operations of firms located in four definite areas —Houston, Los Angeles, Tulsa and Dallas-Fort Worth.

Gulf Oil Corporation Reports Net Earnings of $116 Million

Estimated net earnings from operations of Gulf Oil Corporation and subsidiaries for the first six months of 1958 were approximately $115,737,000.

Total net income for the first six months of 1957 approximated $201,755,000, including $30,686,000 gain realized from the sale of the company's remaining shares of Texas Gulf Sulphur Company stock.

Based on the 31,139,310 shares now outstanding, net earnings for the first half of 1958 were equivalent to $3.72 per share versus $6.48 per share for the same period of 1957.

While earnings in the first half of 1958 were lower than in the corresponding period of the past two years, they were higher than in any similar period prior to 1956.

Standard of California Delays Sinking Fund Debenture Sale

Standard Oil Company of California has postponed its proposed $150 million offering of sinking fund debentures due to market conditions. No new sale date has been set for the issue.

The company has also declared a quarterly dividend, No. 130, of 50 cents a share, payable September 10 to stockholders of record as of August 11.

Net income for the second quarter of 1958 was $59,324,626, or 94 cents a share, compared to $66,856,154, or $1.06 a share for the same period in 1957 reported Board Chairman R. G. Follis.

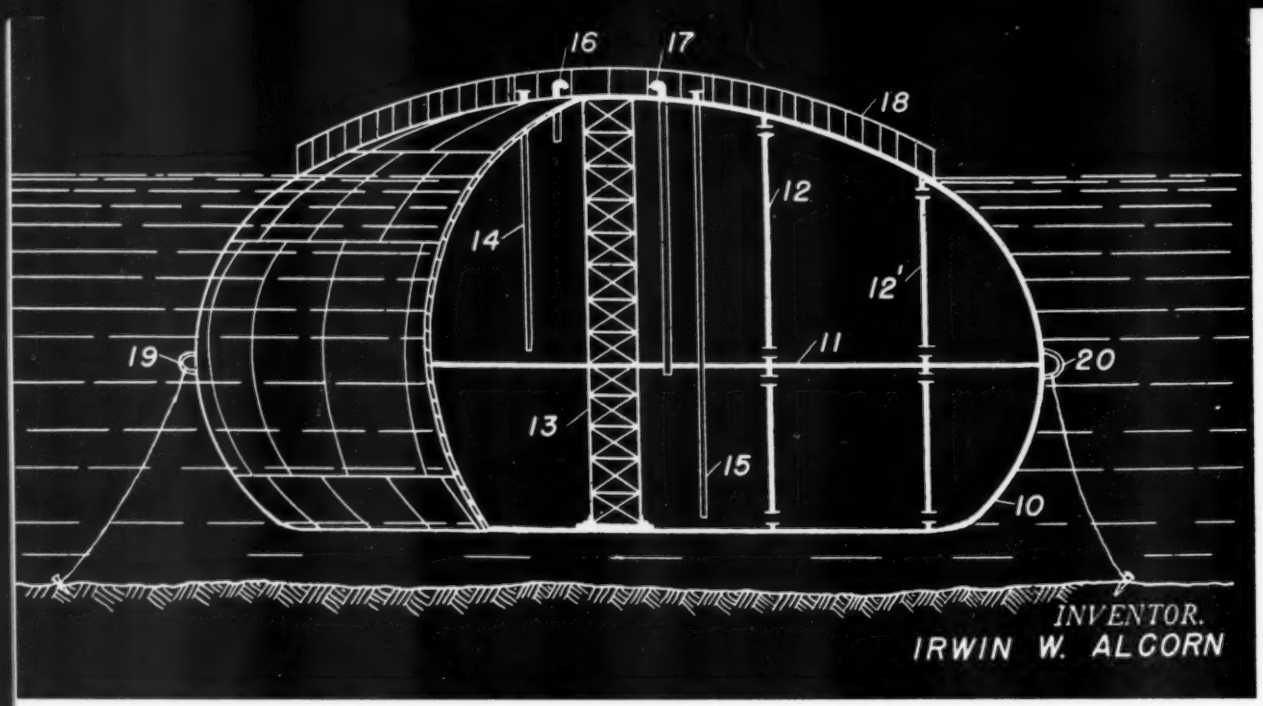
First half net for 1958 totaled $116,735,443, or $1.85 a share, as against $136,328,987, or $2.16 a share, in the first six months of 1957.

Commenting on the mid-year results, Follis said that as far as the petroleum industry was concerned there were good indications that the bottom of the economic decline has been reached and an upturn is under way.

Increase in Operating Income Enjoyed by Brewster-Bartle

Brewster-Bartle Drilling Company, Inc., of Houston reports a 19 percent increase in operating income (before administrative expenses) for the first six months of 1958 as compared with the similar period last year.

Net income before taxes amounted to $290,126 compared to $266,665 for the similar period in 1957. In a semi-annual report to stockholders, the firm revealed that in the first half of 1958, company rigs had been in operation more than 86 percent of the available rig-days and that all of the firm's 14 rigs, except one, are currently running.



Sectional view of interior structure shows 10, the shell which forms the body of the tank divided horizontally by a bulkhead 11 which in turn is subdivided by bulkheads 12 and 12'. A central support 13 provides support in the center, and pipes 14 and 15 permit transfer of fluid in or out of upper and lower compartments separately.

Patent No. 2,655,888

Floating Storage Tank

Offshore tank that could be buoyant or submersible presented rounded neutralizing face to wave shock

One of the earliest problems confronting offshore operators once they had completed a well was what to do with the oil produced by the well until it could be transported to shore.

Numerous systems have been designed for both above and underwater storage and patents have even been granted on units which utilize a tank or part of the drilling island itself for oil storage.

One interesting design for a floating storage tank was patented in 1953 by Irwin W. Alcorn, vice president of Coastal Marine Drilling and Construction Corporation, Houston.

Common practice, Alcorn relates, had been to run the oil into a tanker moored adjacent to the platform. This had several disadvantages, however, foremost of which is the heavy investment required to maintain a tanker at the site merely for oil storage.

Then, too, it involves a technical problem in that tankers must be kept headed into the wind during storage operations to afford maximum stability and safe operation.

Alcorn's design was intended to dispense with these problems, because it would be buoyant enough to float while tied up at offshore wells and at the same time sufficiently stable as to need no changes in direction to keep it headed into the wind.

In addition, it could be converted to underwater storage merely by adjusting the buoyancy.

In construction the tank is made up of a shell divided by a bulkhead along what would be the major axis of a true ellipsoid. It is subdivided by transverse bulkheads and has lower and upper sections.

A central support strengthens the tank where the greatest spread exists between the top and bottom.

To permit loading it is equipped with intake and discharge pipes which extend separately into the upper and lower sections. Exterior apparatus includes a catwalk providing access to the top of the tank and mooring lugs for securing it to offshore structures.

Perhaps, the most important feature is that which gives it maximum stability. The vessel is designed so that upper and lower sections are ellipsoidal, but the lower section has its minor axis foreshortened in the ratio of about 0.6 to 0.95.

Thus the outer surface is built in a continuous curve which becomes almost a straight line in the extreme lower section. As a result the lower surface has its center of gravity low at all times and the upper surface has its center of gravity high at all times.

Also, by presenting a rounded face to incoming waves, the tank minimizes the shock they ordinarily present.

Additional stability can be achieved when the vessel is in use by positioning it and filling the lower compartment with water. Oil is then run into the upper section until it is full, after which oil can displace the water in the lower compartment to the desired degree.

Oil Man's Calendar

SEPTEMBER

3-5 American Petroleum Institute Oil Information Committee meeting. Hotel Statler, Boston.

7-12 American Chemical Society, fall meeting, Chicago.

10-12 National Petroleum Association, 56th annual meeting. Traymore Hotel, Atlantic City, N. J.

15-16 Independent Natural Gas Association of America, annual membership meeting. Roosevelt Hotel, New Orleans.

15-17 American Institute of Electrical Engineers, conference on petroleum, Baker Hotel, Dallas.

21-24 American Society of Mechanical Engineers, petroleum division, mechanical engineering conference, Comospolitan Hotel, Denver, Colorado.

25-26 Mid-Continent Oil and Gas Association, Louisiana-Arkansas division, annual meeting, Roosevelt Hotel, New Orleans.

28-Oct. 1. AIME, power conference, Statler Hotel, Boston.

29-Oct. 3 Society of Automotive Engineers, national aeronautic production forum, and aircraft engineering display. The Ambassador Hotel, Los Angeles.

30-OCT.

1 American Petroleum Institute Executive Committee of Board of Directors. Greenbriar Hotel, White Sulphur Springs, West Virginia.

OCTOBER

1-3 American Association of Oilwell Drilling Contractors, 18th annual meeting. Adolphus and Baker Hotels, Dallas, Texas.

5-8 Society of Petroleum Engineers of AIME, fall meeting. Houston, Texas.

5-8 National Association of Corrosion Engineers, northeast region, Somerset Hotel, Boston.

7-8 Texas Mid-Continent Oil and Gas Association, annual meeting, Statler-Hilton Hotel, Dallas.

12-18 OIL PROCESS WEEK.

13-15 American Gas Association, annual convention, Atlantic City, N. J.

13-16 Society of Exploration Geophysicists, annual meeting, Hotel Gunter, San Antonio, Texas.

13-17 American Society of Civil Engineers, annual convention, Hotel Statler, New York.

16-17 Society of Petroleum Engineers of AIME, Southern California petroleum section fall meeting. Biltmore Hotel, Los Angeles.

19-21 National Association of Oil Equipment Jobbers, annual convention & trade show. Hotel Adolphus, Dallas, Texas.

20-24 National Association of Corrosion Engineers, south central region, Roosevelt Hotel, New Orleans.

22-23 National Association of Corrosion Engineers, western region, corrosion control course, U. S. Grant Hotel, San Diego, California.

22-24 Southwestern Federation of Geological Societies, technical meeting, Mineral Wells, Texas.

23-24 Western Petroleum Refiners Association, annual session on refining technology & industrial relations meeting. Rufus Garrett Hotel, El Dorado, Arkansas.

26-31 American Institute of Electrical Engineers, general meeting, Pittsburgh.

27-28 Independent Petroleum Association of America, annual meeting, Statler-Hilton Hotel, Dallas.

NOVEMBER

6-7 American Association of Petroleum Geologists, Pacific section annual meeting, Los Angeles.

10 Transportation Club of the Petroleum Industry, annual meeting, Bismarck Hotel, Chicago.

10 American Petroleum Institute, Oil Information Committee Steering Committee meeting. Conrad Hilton Hotel, Chicago.

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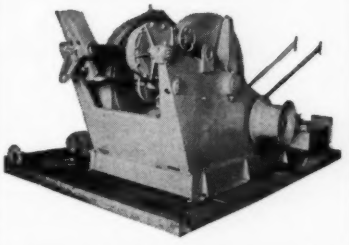

50,000 lb. line pull Jaeger stern anchor winches. Drum size 25" X 25"—will spool up to 1900' of 1¼" cable. Complete with torque converters and heavy duty Continental Industrial gas engines model R-6602—6 cyl—153 HP—radiator cooled. Torque converters will fit 6-71 diesels for conversion purposes. Units complete with level-wind devices. Excellent for pipe laying barges; mooring storage barges; tenders; and all types of floating rigs. Overall, front-to-back, 13' 9¼"—overall width 9'. Buy now and get what you want.

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Boa-tel' (bo-tel')—A catering service that furnishes food, tableware, kitchen utensils and linens—plus the personnel to prepare and serve meals and to do housekeeping—for the oil industry both at offshore and onshore locations.

Boa-tel' steward — An experienced chef who plans and prepares as many meals per day as are required for any size crew for any length of time.

Boa-tel' con-trol' — The system of controlled costs that makes Boatel Service tops in quality, yet competitive in price.

Boa-tel-ier'—One who provides Boatel Service. (Only General Marine Corp.)

Boa-tel' men — Cooks, dishwashers, waiters, bedroom stewards, butchers, warehousemen, truck drivers, anyone having any part in providing Boatel Service.

Boa-tel' sup-ply' base—A modern warehouse—just built at the new Plaquemines Parish, La., headquarters of General Marine Corp.—with a meat cutting room approved by the Department of Health and a 20-below-zero freezer where meat and food products are received and inspected. Supplies are distributed to the field in Boatel refrigerated trucks.

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The Slush Pit . . .

"Where have you been keeping yourself?" one blond asked another.

"I haven't," the other replied.

Nurse: "The man in Ward 10 doesn't think we're giving him enough attention."

Doctor: "Well, give him whatever he wants."

Nurse: "But my husband is terribly jealous."

One caveman to another: "Say what you will, we never had this crazy weather until they started using those bows and arrows."

She: "There are a lot of people who don't pet in parked cars."

He: "Yes, the woods are full of them."

The crewboat operator rushed to the dispatcher's office immediately upon arrival. He inquired: "What did my wife say when you told her I'd be in late?"

Dispatcher: "All she said was, 'Can I depend on that?' "

Angry Wife: "John, one of the ducks you were out shooting yesterday called and left her number."

"Father," said the 7-year-old boy, "Mary and I want to get married."

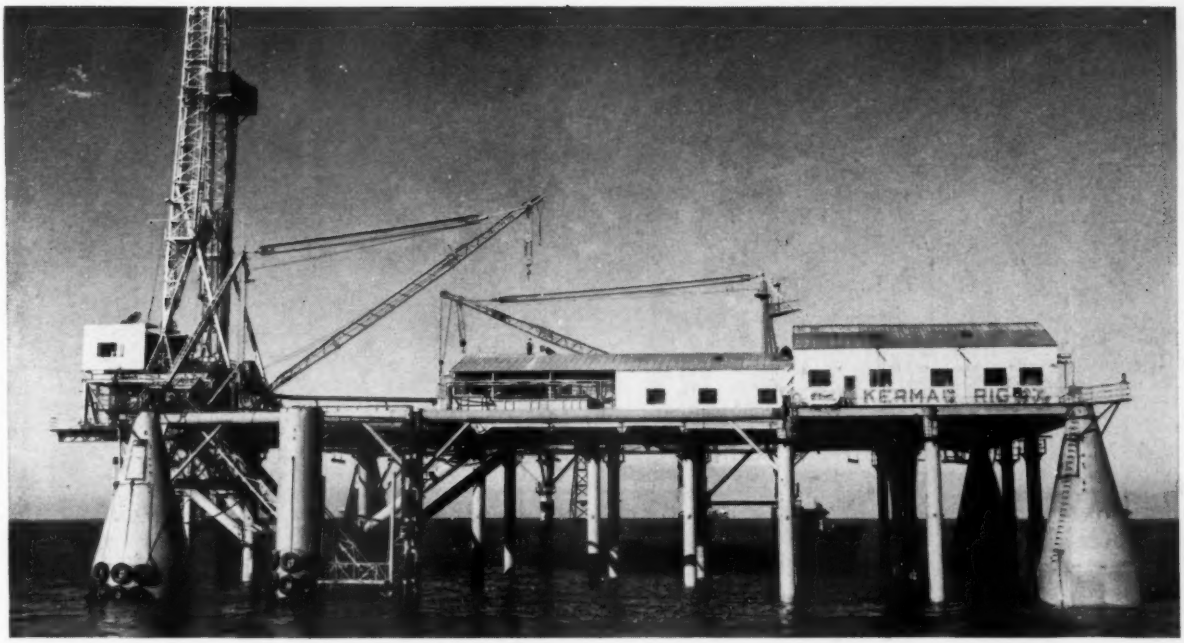
"That's fine, Son," replied the father, "but how are you going to live?"

"Well, Father," replied the boy, "Mary and I each have an allowance of $1.50 a week."

"How will you get along on that amount if you have children?" asked the father.

"Oh, Well," replied the boy, "We've been lucky so far."

"THEY SAY SOME OF THOSE ROUGHNECKS DON'T SEE A WOMAN FOR WEEKS."



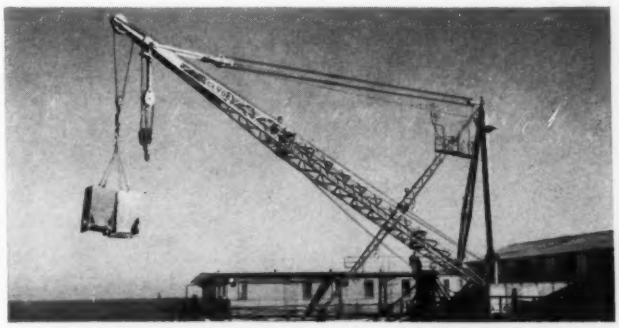
CLYDE DERRICKS and CLYDE HOISTS SERVE ON MASSIVE KERMAC RIG 47

Kerr-McGee Oil Industries, Inc. new Rig No. 47 is pictured above on location for Phillips Petroleum Company. Measuring 202 feet wide by 242 feet long, the new rig offers offshore platform space to spare with a maximum in stability. Built recently at Orange, Texas, Rig 47 was towed in two sections down the Sabine River and assembled at Sabine Pass before outfitting.

Materials handling equipment on this huge drilling rig had to meet tough specifications for reach, capacity and round-the-clock endurance. Two stiff-leg Clyde derricks operating with Clyde electric hoists and swingers proved the answer. These derricks with 100-foot booms are positioned to serve the full area of the giant Texas deck. The hoists are powered by the rig's main diesel generators.

Although the installation and service on drilling rigs are highly specialized, the Clyde equipment that was furnished on Rig 47 is standard equipment. This not only made possible substantial savings in design and construction costs, but also gave the strongest possible assurance of getting performance tested machinery. The all-welded booms and stiff-legs, rigid steel hoist frames and ball bearing shafts are but a few of the many Clyde quality features "right out of the catalog".

If dependable materials handling in any bulk or form is a problem that concerns you, check with Clyde. Find out why Clyde equipment pays *you* best.



CLYDE DERRICK BOOSTS MUD CANS FROM BOAT TO TOPSIDE. With 100-foot booms, the Clyde derrick on No. 47 reaches the extreme non-drilling end of the giant deck. At right, bulk mud cans are being unloaded from Kermac Work Boat III, anchored alongside rig.

For offshore, for ship or shore, Consult Clyde Marine Engineering Department

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